



CITY OF MANCHESTER.

REPORT

ON THE

Health of the City of Manchester,

1932,

BY

R. VEITCH CLARK, M.A., M.B., CH B., B.Sc., D.P.H.



PUBLIC HEALTH OFFICE,
CIVIC BUILDINGS,
1, MOUNT STREET, MANCHESTER,
4th October, 1933.

MY LORD MAYOR, ALDERMEN,
AND MEMBERS OF THE CITY COUNCIL.

I have the honour to submit my Annual Report on the health of the city for the year 1932.

The report is arranged so that the details of any specific section can be readily obtained.

Some of the principal vital statistics for the year are:—

Population.

Estimated population to the middle of 1932 is 768,745, of which 392,500 are males and 406,539 females.

Marriage Rate.

The marriage rate for the year was 15.97. This is 1.4 lower than the average of the last five years.

Birth Rate.

The birth rate was 15.37, and is the lowest recorded. It is 1.5 lower than the average of the last five years.

Death Rate.

The death rate of 13.03 is the lowest recorded since 1920, when the rate was 12.99.

Infantile Mortality.

Infantile mortality for the year is 85.4 per 1,000 births, which is 1.9 per 1,000 births lower than the average of the last five years.

Maternal Mortality.

Maternal mortality for the year gives a rate of 3.64 per 1,000 births. Although this is a slight increase on the previous year, there is a reduction of .65 on the average of the past five years.

Cancer.

The cancer death rate of 1.64 for the year is the highest recorded.

TUBERCULOSIS.

The death rate for tuberculosis of all forms was 1.17—for pulmonary tuberculosis the figure was 1.0. Both of these mortality rates are the lowest recorded in the city's annals, and it is of interest to observe the steady decline which this disease exhibits. For the ten years 1891 to 1900, the average death rate from all forms of tubercle was 2.96 per 1,000; for the years 1923 to 1932 inclusive the average was 1.39 per 1,000.

These figures are of more particular interest on this occasion, inasmuch as 1932 is the first year in which the children's sanatorium at Abergele has been in full working order, and in March of 1932 there was also opened the new Tuberculosis Clinic in Oxford Road.

Abergele Sanatorium.—The details of the working of this establishment are given in the sectional report, but it is desirable to record the general efficiency with which the sanatorium has been conducted and the satisfaction which has been experienced on the formal visits by the committee with the very great improvement shown in the condition of the patients. The results of the treatment of the disease itself are fulfilling all our expectations. The children are uniformly happy. The educational work at the school is attaining a very satisfactory standard. In every way the sanatorium is justifying its establishment as an essential part of the city's public health work.

Tuberculosis Clinic, Oxford Road.—The new clinic was formally opened by the Lord Mayor in April, and, for the first time for many years, the work of this section of the department is now carried out in suitable surroundings. The situation of the new clinic is such as to facilitate very considerably the attendance of the patients, and the numbers have, in fact, increased since the transfer of the work was made. The better accommodation has made it possible to arrange times of appointment, so that waiting by patients is minimised. Pleasure has been repeatedly expressed by the patients at the improved circumstances in which they find themselves. A very definite advantage has also accrued to the work from the fact that the clinic is situated in the main hospital centre of the city.

HOSPITALS.

In the section dealing with hospitals generally, a considerable increase in the returns available is given. During the year a great deal of work has been devoted to the consideration of better methods of recording the work of the hospitals, upon which in the end may be based, it is hoped, an ultimate reorganisation of the hospital work of the city, so that the fullest advantage may be taken of the existing provision. When the hospitals were transferred, a general analysis of the diseases treated or of the medical records did not exist. The changes which are indicated in the report on this subject will, it is hoped, provide material upon which improved user of the existing establishments may be found. The committee has throughout the year, within the limits imposed by the necessary present economy, continued the work of improvement and modernisation of the hospital services. The lay organisation and business supervision of the hospitals has benefited very materially from the appointment and work of the Lay Administrative Officer. It is satisfactory to record the success which has attended the provision of this entirely new post in the department.

COMPULSORY PASTEURISATION OF THE MILK SUPPLY.

During the year the City Council approved of the inclusion in a proposed Parliamentary Bill of clauses for power to apply for the compulsory pasteurisation of the milk supply in the city with the exception of certain designated milks, viz.:—Certified Milk and Grade “A” (T.T.) Milk. This Bill was rejected by a poll of electors in the early part of 1933. It is, however, important that attention should be directed to the special report on pasteurisation of milk appearing on pages 308—316. There is no doubt but that the proposals which were thus made for the pasteurisation of the city’s milk supply would have constituted a health measure of the greatest importance for the safety and well-being of the public. It is conclusively established that bovine tuberculosis in man is primarily caused by the ingestion of milk infected with tubercle from the cow. The records of such infection in the city are given in summary form in the report. It is equally certain that pasteurised milk is not only a safe milk but is a milk the nutritive qualities of which are such as make it a sufficient food for people of all ages.


The proposals contained in the rejected Bill were the first of this nature to be put forward in England, and while they have for the time being been rejected, knowledge based both upon experience and science show that this is the only measure which can afford immediate and complete protection against milk-borne infection.

I have the honour to be,

Your obedient Servant,

R. VEITCH CLARK,

Medical Officer of Health.



Digitized by the Internet Archive
in 2017 with funding from
Wellcome Library

<https://archive.org/details/b29785534>

STATISTICAL.

The following are general statistics for the year 1932 :-

Area of the City in acres	27,257
Census population for the year 1931	<div> <div> Males .....360,976 Females.....405,402 </div> <div> 766,378 </div> </div>
Estimated population at the middle of year 1932	<div> <div> Males .....362,206 Females .....406,539 </div> <div> 768,745 </div> </div>
No. of persons per acre.....	28
Persons married per 1,000 of population in the area of the Manchester Union	15.97
Live Births in the City of Manchester..	<div> <div> Males 6,221 Females ... 5,593 </div> <div> 11,814 </div> </div>
Live birth-rate per 1,000 of population	15.37
Still-births	<div> <div> Males 322 Females .. 239 </div> <div> 561 </div> </div>
Deaths	<div> <div> Males 5,276 Females ... 4,738 </div> <div> 10,014 </div> </div>
Recorded annual death-rate per 1,000 of population	<div> <div> Males 14.57 Females ... 11.65 </div> <div> 13.03 </div> </div>
Deaths under 1 year of age per 1,000 births	85.41
Excess of registered births over deaths.....	1,800
Percentage of mortality occurring in public institutions	47.60

No. of occupied Structurally Separate Dwellings at the Census in April, 1931	177,430
No. of persons per occupied Structurally Separate Dwelling (Census 1931)	4.32
No. of persons per house 1932 (Based on 188,325 houses connected with the water supply within the City.. .. .	4.08
No. of new houses erected during 1932 :—	
By Local Authority	909
By other bodies or persons	1039
	<hr/> 1,948

PUBLIC HEALTH OFFICERS.

(A) MEDICAL.

Medical Officer of Health	.. .. .	R. Veitch Clark, M.A., M.B., CH.B., B.SC., D.P.H.	
Senior Assistant Medical Officer of Health		W. St. Clair McClure, M.R.C.S., L.R.C.P., D.P.H.	
Assistant Medical Officer of Health	..	J. S. Taylor, M.D., D.P.H.	
Senior Tuberculosis Officer	.. .. .	D. P. Sutherland, M.B., B.S.	
Assistant Tuberculosis Officers	.. .. .		4
Medical Officer, Tuberculosis (part time)	.. .. .		1
Assistant Medical Officer of Health— (Maternity and Child Welfare)	..	Nora F. Smith, M.B., B.S., D.P.H.	

Medical Officers, Child Welfare Centres	.. .. .		8
„ „ „ „ (part-time)	.. .. .		7
Dental Surgeons (part-time)	.. .. .		2

Abergele Sanatorium.

Medical Superintendent—J. E. Geddes, M.D., CH.B.
Two Assistant Medical Superintendents.

Baguley Sanatorium.

Medical Superintendent—H. G. Trayer, B.A., M.B., CH.B., D.P.H.
Three Assistant Medical Officers.

Monsall Hospital.

Medical Superintendent—D. S. Sutherland, M.D.
Four Assistant Medical Officers.

Booth Hall Hospital.

Medical Superintendent—J. T. D'Ewart, M.B.
Four Assistant Medical Officers.

Withington Hospital and Institution.

Medical Superintendent—M. Gamble, M.B.E., M.D.
Six Assistant Medical Officers.

Crumpsall Hospital and Institution.

Medical Superintendent—W. A. Ramsay, M.A., M.D.
Five Assistant Medical Officers.

Langho Colony.

Medical Superintendent—J. Shearer, M.B., CH.B.

In addition, there are the consulting staffs of these various hospitals.

District Medical Officers under Poor Law Acts	26	} Chiefly combined appointments.
Public vaccinators	25	

(B) OTHERS.

Veterinary Surgeon—Richard C. Locke, M.R.C.V.S., D.V.S.M. (VICT.).

Public Analyst—Harri Heap, M.SC., F.I.C.

„ (Assistant)—Alfred N. Leather, B.SC. (LOND.), F.I.C.

Sanitary Inspectors.

Chief—Fred Pollard, F.S.I.A.	1
Divisional	2
Special to the Medical Officer of Health	2
Drainage	2
Food and Drugs	3
Smoke	4
Housing	4
Rat Officers	2
Canal Boats	1
Milk Control	3
House Drainage	3
District	47
Women, Workshops, etc.	2
Total	<u>76</u>

Maternity and Child Welfare.

Superintendent of Health Visitors	1
„ „ (Assistant)	1
Inspector of Midwives	1
„ „ (Assistant)	1
Midwives	4
Ophthalmic Nurses	3
Centre Superintendents	14
Health Visitors	60
Cleansing Nurse	1
Masseuses	8
Total	<u>94</u>

Tuberculosis.

Sanitary Inspectors	3
Nurses	13
Vaccination Officers	4

CITY OF MANCHESTER (299, OLDHAM ROAD)—METEOROLOGY, 1932. (Means of the Monthly Readings.)

	Barometer	Dry Bulb	Wet Bulb	Humidity	Maximum Temperature	Minimum Temperature	Mean Temperature in Shade	Sun Maximum	Grass Maximum	One Foot	Four Feet	Total Rainfall (inches)	Total No. of Wet Days	Total Hours of Sunshine	Average Mean Daily Temperature 1881-1915 (extracted from the book of normals)	Average Rainfall 1892-1932	Average Hours of Sunshine 1892-1932	Fog Noted
January	30.096	43.7	42.3	89	48.5	40.9	44.7	57.5	39.6	42.7	45.4	3.90	18	20.6	39.1	3.13	10.9	8th, 23rd, 25th, 26th, 27th, 30th, and 31st.
February .. .	30.523	38.5	36.9	85	43.9	39.7	41.8	59.4	33.9	38.5	40.6	0.11	8	39.7	40.1	2.38	29.8	1st, 2nd, 3rd, 4th, 8th, 9th, 12th, 16th, 17th, 18th, 19th, and 21st.
March .. .	29.956	40.1	37.9	81	47.0	36.8	41.9	69.7	34.2	39.1	42.3	2.21	10	52.0	42.3	2.38	73.3	3rd 4th, 9th, 14th.
April .. .	29.712	44.9	42.4	80	49.9	39.8	44.9	85.1	37.2	43.4	44.3	2.95	24	99.0	46.8	1.99	114.3	
May .. .	29.845	51.6	48.3	78	57.2	46.4	51.8	90.3	44.3	49.8	47.7	4.77	26	88.3	52.6	2.39	143.2	
June .. .	30.062	59.4	53.5	66	68.2	52.0	60.1	108.2	49.3	59.1	53.6	0.46	8	182.6	58.4	2.39	152.0	
July .. .	29.729	61.2	57.0	76	67.3	56.4	61.9	103.6	52.9	62.8	52.9	3.54	25	92.2	60.8	3.01	137.7	
August .. .	30.042	63.2	59.0	77	70.6	58.0	64.3	110.5	54.2	64.4	61.1	1.44	16	130.9	59.9	3.71	118.1	
September ..	29.850	55.9	53.2	83	62.1	51.4	56.8	95.5	47.0	58.3	60.2	3.95	22	89.9	56.4	2.64	97.6	24th, 27th, and 28th.
October .. .	29.619	47.2	45.4	87	53.1	44.0	48.6	75.9	41.0	49.0	53.6	7.42	27	50.3	49.8	3.44	56.2	3rd, 4th, 5th, 8th, 9th, 12th, 24th, 27th, and 31st.
November ..	30.008	44.8	43.3	88	48.5	41.9	45.2	56.6	38.5	44.1	48.8	2.82	22	10.2	43.6	3.04	18.2	5th, 6th, 8th, 9th, 10th, 19th.
December ..	30.006	42.8	41.2	88	46.6	40.4	43.5	54.5	37.5	41.4	45.6	1.49	22	11.3	40.4	3.42	6.9	4th, 25th, 26th, and 27th.
YEAR ..	29.954	49.4	46.7	82	55.2	45.6	50.5	80.6	42.5	49.4	49.7	35.06	228	867.0	49.2	33.92	958.2	

The extent to which Institutions are used is to some extent represented in the following table :—

TABLE 1.

DEATH-RATES IN THE HOMES OF THE PEOPLE AND IN INSTITUTIONS
FOR 5 YEARS 1928-1932.

YEAR	Estimated Populations to middle of Year	Death-rate per 1000 of persons dying in their own homes	Death-rate per 1000 of persons dying in Institutions	Total death-rate per 1000
1928	759,563	7.39	5.67	13.06
1929	761,813	8.93	6.58	15.51
1930	764,070	6.97	6.10	13.07
1931	766,378	7.4	6.5	13.86
1932	768,745	6.2	6.8	13.03

The chief causes of death are shown below for each of the years 1927-1932 :—

TABLE 2.

	1927	1928	1929	1930	1931	1932
Tuberculosis of the Lungs ..	881	843	930	903	855	770
Tuberculosis (other forms) ..	172	149	152	174	132	126
Diseases of the Heart	1152	1155	1540	1398	1642	1747
Cerebral Hæmorrhage, Apoplexy, Hemiplegia	422	426	456	426	494	449
Pneumonia	952	905	1305	879	1010	905
Bronchitis	1194	835	1029	661	866	531
Digestive Organs	323	351	346	354	337	354
Atrophy, Debility (chiefly in infants)	42	36	40	55	45	28
Old Age	353	362	469	378	416	361
Premature Birth	250	250	270	252	231	229
Nephritis and Bright's Disease ..	275	338	296	319	311	289
Convulsions	59	44	44	32	34	44
Inflammation of the Brain ..	34	37	46	36	17	25
Diarrhœa and Dysentery	118	203	185	153	151	116
Measles	164	123	60	146	65	122
Scarlet Fever	20	14	11	16	8	18
Whooping Cough	124	89	220	37	86	80
Diphtheria	91	99	57	58	60	80
Influenza	455	175	704	129	340	181
Malignant Disease	1083	1107	1135	1153	1240	1258

TABLE 3.

Gains and Losses in 1932 per 1,000 persons living, as compared with the average for the 10 years 1922-1931.

<i>Gains.</i>									
Scarlet Fever	..	..	..	..	..	..	..	..	0·02
Measles	..	..	..	..	..	..	..	..	0·06
Influenza	..	..	..	..	..	..	..	..	0·19
Whooping Cough	..	..	..	..	..	..	..	..	0·06
Diarrhoeal Diseases	..	..	..	..	..	..	..	..	0·10
Puerperal Fever	..	..	..	..	..	..	..	..	0·01
Phthisis	..	..	..	..	..	..	..	..	0·19
Tubercular Meningitis	..	..	..	..	..	..	..	..	0·02
Tubercular Peritonitis: Tabes Mesenterica	..	..							0·02
Tubercular Diseases (other)	..	..	..	..	..	..	..	..	0·03
Premature Birth	..	..	..	..	..	..	..	..	0·05
Nervous Diseases	..	..	..	..	..	..	..	..	0·06
Bronchitis	..	..	..	..	..	..	..	..	0·70
Pneumonia	..	..	..	..	..	..	..	..	0·11
Respiratory Diseases (other)				..	..	..	..	..	0·03
Old Age	..	..	..	..	..	..	..	..	0·06
Total									<u>1·71</u>
<i>Losses.</i>									
Diphtheria	..	..	..	..	..	..	..	..	0·01
Cancer	..	..	..	..	..	..	..	..	0·21
Diseases of the Heart and Blood Vessels							..	..	0·70
Digestive System	..	..	..	..	..	..	..	..	0·01
Total									<u>0·93</u>
Balance of Gains from above Causes	..	..	..	..					0·78
„ „ all Causes	..	..	..	..					0·74

INFANTILE MORTALITY.

TABLE 4.

Deaths per 1,000 births at the ages 0—2 months, 3-5 months, and 6-11 months in successive years.

YEARS	Months of Age			
	0-2	3-5	6-11	Under 1 year
1891-1895 (mean) ..	82.79	40.99	62.97	186.75
1896-1900 (mean) ..	83.44	42.43	66.28	192.16
1901-1905 (mean) ..	81.02	37.52	54.24	172.78
1906-1910 (mean) ..	73.89	29.12	44.27	147.28
1911-1915 (mean) ..	69.23	24.38	39.26	132.88
1916-1920 (mean) ..	58.46	17.72	28.65	104.82
1921-1925 (mean) ..	52.46	15.63	27.38	95.45
1926-1930 (mean) ..	49.77	15.76	22.33	87.86
1926	49.14	14.62	22.86	86.62
1927	48.62	13.84	23.31	85.77
1928	50.97	17.51	22.39	90.87
1929	52.10	18.03	27.17	97.30
1930	48.02	14.78	15.93	78.73
1931	50.61	13.31	19.92	83.84
1932	51.80	14.05	19.56	85.41

Table 5 allows a comparison with former years in respect of the infantile mortality rates from different causes for the whole of the first year of life.

TABLE 5.

CITY OF MANCHESTER.

CAUSES OF DEATH	DEATHS UNDER ONE YEAR PER 1,000 BIRTHS					
	1927	1928	1929	1930	1931	1932
All causes	85.77	90.87	97.30	78.73	83.84	85.41
Smallpox .. .. .	..	..	..	..	..	..
Chickenpox	0.15	0.08	..	..	0.08	0.42
Measles	3.44	3.64	1.38	3.00	0.90	2.20
Scarlet Fever.. .. .	0.23	..	..	..	0.08	..
Whooping Cough	3.67	3.33	5.76	1.53	2.29	2.62
Diphtheria	0.92	1.08	0.77	0.23	0.49	0.25
Erysipelas	0.31	0.08	0.15	0.46	0.33	0.42
Tuberculous Meningitis	0.38	0.39	0.77	0.38	0.73	0.42
Abdominal Tuberculosis	0.15	0.23	0.15	0.15	..	0.08
Other Tuberculous Diseases '	0.38	0.39	0.15	0.69	0.33	0.25
Meningitis (<i>not Tuberculous</i>)	0.46	0.70	0.92	0.77	0.65	0.59
Convulsions	3.97	2.71	3.07	2.14	2.12	3.30
Bronchitis	6.34	7.05	5.83	5.44	5.88	3.81
Pneumonia (all forms)	13.68	16.11	20.18	11.33	15.59	16.40
Diarrhoea and Enteritis	10.17	13.24	12.35	10.57	10.86	8.63
Gastritis	0.54	0.39	0.77	0.77	..	..
Syphilis	0.61	0.54	0.54	0.77	0.65	1.19
Rickets	0.08	0.54	0.23	0.15	0.08	0.42
Injury at Birth	2.60	2.48	3.07	2.37	3.26	2.37
Atelectasis	1.60	1.70	2.15	1.76	2.04	2.62
Congenital Malformation	6.19	6.14	5.45	5.44	5.96	7.19
Premature Birth	19.11	19.36	20.72	19.30	18.78	19.38
Atrophy, Debility, and Marasmus	2.98	2.79	2.99	4.06	3.67	2.20
Overlying, found dead in bed, and suffocation.. .. .	0.46	0.62	0.46	0.38	0.74	0.34
Other causes	7.35	5.97	9.44	7.04	8.65	9.76

PUBLIC ASSISTANCE.

This is shown in the table on page 10, compiled from a monthly statement furnished to the Hospitals Sub-Committee. Further particulars are given in the statement below, obtained from the Public Assistance Officer.

*Cases maintained by or chargeable to the Public Assistance Committee
on the 1st January, 1933.*

(A) RETURN OF MENTAL CASES.

Institution	Class of Case Maintained	Suffering from Mental Infirmity
1. Establishments		
<i>(a) Belonging to Manchester :—</i>		
Crumpsall Institution	General Hospital and Lunacy	683
Swinton Home	Mentally deficient children..	102
<i>(b) Belonging to other Authorities :—</i>		
Garstang	Feeble-minded persons ..	1
Ulverston	„ „ ..	9
West Derby	Mentally deficient persons ..	2
2. County Mental Hospitals :—		
Lancaster	Persons of unsound mind ..	409
Prestwich	„ „ ..	1,011
Winwick	„ „ ..	541
Whittingham	„ „ ..	188
Rainhill	„ „ ..	129
Other County Mental Hospitals .	„ „ ..	7
Sandlebridge School, Alderley Edge.	Mentally defective adults ..	5
All Souls' Special School, Hillingdon, Essex	} Feeble-minded girls {	3
Cumnor Rise Home, Botley, Oxford.		2
Stoke Park Colony, Bristol	} Feeble-minded persons .. {	22
Whittington Hall, Chesterfield ..		8
Pontville Home, Ormskirk	Feeble-minded boys	0
Durran Hill House, Carlisle	Mentally defective women ..	5
St. Joseph's Home, Sudbury	Feeble-minded young women	1
Allerton Priory, Woolton, Lancs. ..	Feeble-minded children ..	1
Royal Albert Institution, Lancaster.	Feeble-minded adults	8
Carried forward.. .. .		3,137

RETURN OF MENTAL CASES—*Continued.*

Institution	Class of Case Maintained	Suffering from Mental Infirmary
	Brought forward	3,137
St. Raphael's Colony for Epileptics and Mental Defectives, Northan, near Potter's Bar	Feeble-minded persons ..	0
	Total	<u>3,137</u>

(B) MATERNITY CASES.

	Number
Simpson Hill.. .. .	0
Crossley Home	0
Central Hall	1
Macalpine Home	1

THE NUMBER OF PERSONS WHO WERE IN RECEIPT OF RELIEF FROM THE MANCHESTER PUBLIC ASSISTANCE COMMITTEE DURING THE LAST WEEK IN EACH MONTH OF THE YEARS 1932 AND 1931.

	1932		1931	
	Indoor	Out-door	Indoor	Out-door
January	4,004	42,547	4,172	29,743
February	4,001	42,818	4,206	29,182
March	3,884	43,196	4,082	29,358
April	3,834	43,424	3,917	29,798
May	3,696	45,032	3,711	28,161
June	3,683	43,591	3,744	28,881
July	3,710	44,658	3,809	29,149
August	3,709	45,611	3,843	31,125
September	3,720	46,760	3,840	31,104
October	3,756	48,559	3,860	31,728
November	3,841	50,351	3,940	37,126
December	3,879	53,013	3,994	40,010

TABLES.

1932

TABLE A.—MANCHESTER, 1932
CAUSES OF DEATH AT DIFFERENT LIFE PERIODS IN THE 52 WEEKS OF THE YEAR.
PERSONS.—(MALES AND FEMALES.)

CAUSES OF DEATH	AGES AT DEATH													
	All Ages	UNDER 5 YEARS		5	10	15	20	25	35	45	55	65	75	85 and upwards
		0 to 1	1 to 5	to 10	to 15	to 20	to 25	to 35	to 45	to 55	to 65	to 75	to 85	
All Causes	10014	1009	502	168	106	161	275	472	606	1187	1792	2090	1391	255
A.—GENERAL DISEASES.....	3714	646	284	99	46	91	156	245	284	499	626	526	185	27
B.—LOCAL DISEASES.....	5495	327	194	53	48	53	87	182	285	631	1071	1416	997	151
C.—OTHER SPECIFIED DIS...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
D.—ILL-DEFINED DISEASES...	404	26	1	...	1	...	...	...	4	4	19	111	166	72
E.—VIOLENT DEATHS	401	10	23	16	11	17	32	45	33	53	76	37	43	5
A.—General Diseases.														
Smallpox.. { Vaccinated .....	...	...	...	...	...	...	...	...	...	...	...	...	...	...
{ Not Vaccinated ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
{ No Statement.....	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Cowpox .....	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Chickenpox	6	5	...	1	...	...	...	...	...	...	...	...	...	...
Measles	122	26	85	8	...	1	1	...	...	...	1	...	...	...
Rubella	1	...	1	...	...	...	...	...	...	...	...	...	...	...
Scarlet Fever..	18	...	9	8	...	...	1	...	...	...	...	...	...	...
Typhus .....	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Plague.....	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Relapsing Fever .....	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Influenza	181	8	4	6	1	4	3	14	21	30	47	31	8	4
Whooping Cough.....	80	31	49	...	...	...	...	...	...	...	...	...	...	...
Mumps	1	...	...	...	...	...	...	...	...	...	...	1	...	...
Diphtheria.....	80	3	31	34	8	1	1	...	1	1	...	...	...	...
Poliomyelitis	1	...	1	...	...	...	...	...	...	...	...	...	...	...
Cerebro-spinal Fever	20	8	2	4	1	1	1	1	1	1	...	...	...	...
Simple Cont: Fever.....	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Enteric Fever	4	...	1	...	...	2	...	...	...	...	1	...	...	...
Asiatic Cholera .....	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Epidemic Diarrhoea	3	1	2	...	...	...	...	...	...	...	...	...	...	...
Diarrhoea	111	101	10	...	...	...	...	...	...	...	...	...	...	...
Dysentery	2	...	...	...	1	...	...	...	...	...	...	1	...	...
Malarial Fever.....	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Trench Fever .....	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Actinomycosis	2	...	...	1	...	...	...	...	1	...	...	...	...	...
Hydrophobia														
Glanders.....														
Anthrax														
Tetanus														
Syphilis														
Gonorrhoea, Strict: Urethra....														
Puerperal.. { Septicæmia														
{ Pyæmia														
{ Phlegmasia Dol..														
{ Fever.....														
Infective Endocarditis	15	...	1	1	1	2	3	3	1	2	1	...	...	...
Leprosy .....	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Psittacosis .....	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Erysipelas	25	5	1	...	...	...	1	...	2	4	5	5	2	...
Septicæmia (not puerp:).....	22	2	3	...	...	2	3	4	2	4	1	1	...	...
Pyæmia (not puerp:).....	4	...	...	...	...	...	...	1	1	2	...	...	...	...
Phlegmon	14	3	2	...	...	...	1	2	1	1	2	1	1	...
Phagedæna .....	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Other Septic Diseases.....	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Tubercular Phthisis.....	702	2	14	2	9	49	105	143	116	149	85	27	1	...
Phthisis	68	...	3	...	1	3	9	8	20	18	6	...	...	...
Tubercular Meningitis.....	66	5	27	15	7	6	1	2	2	1	...	...	...	...
Tubercular Peritonitis	14	1	3	2	...	...	1	3	2	1	1	...	...	...
Tabes Mesenterica	1	...	...	...	...	1	...	...	...	...	...	...	...	...

TABLE A, 1932—continued.

CAUSES OF DEATH	AGES AT DEATH													
	All Ages	UNDER 5 YEARS		5 to 10	10 to 15	15 to 20	20 to 25	25 to 35	35 to 45	45 to 55	55 to 65	65 to 75	75 to 85	85 and upwards
		0 to 1	1 to 5											
3. DISEASES OF HEART.														
Valvular Dis : Endocarditis ...	414	...	1	3	6	6	15	22	36	62	88	109	62	4
Pericarditis	15	...	1	1	2	...	2	1	1	1	2	4	...	...
Hypertrophy of Heart.....	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Angina Pectoris	68	...	...	...	...	...	...	...	3	13	26	17	9	...
Dilatation of Heart	46	...	...	...	...	1	...	3	...	7	7	22	5	1
Fatty Degen : of Heart	34	...	...	...	...	...	...	...	2	15	9	7	1	...
Syncope, Heart Disease.....	1170	2	1	2	4	3	2	9	29	102	221	393	354	48
4. DIS : OF BLOOD VESSELS.														
Cerebral Hæmorrhage.....	385	7	1	1	...	3	...	5	9	39	103	126	82	9
Apoplexy, Hemiplegia.....	64	...	...	...	...	...	...	...	...	5	14	24	20	1
Aneurism ..	15	...	...	...	...	...	...	...	1	4	6	4	...	...
Senile Gangrene	34	...	...	...	...	...	...	...	...	...	4	15	10	5
Embolism, Thrombosis	110	...	...	...	...	...	...	3	6	9	32	37	17	6
Phlebitis.....	1	...	...	...	...	...	...	...	...	...	1	...	...	...
Varicose Veins	1	...	...	...	...	...	...	...	...	1	...	...	...	...
Blood Vessels (Other Diseases)	429	...	...	...	1	...	...	...	1	22	69	162	142	32
5. DIS : OF RESPIRATORY SYS :														
Laryngitis	3	2	...	...	...	...	...	...	...	1	...	...	...	...
Memb: Laryng: (Not Diphth:)	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Croup.....	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Larynx (Other Dis:)	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Bronchitis	531	45	11	2	...	...	1	7	17	57	111	142	116	22
Pneumonia { Lobar-Croupous.	338	23	21	9	3	10	14	31	42	66	66	37	15	1
	547	170	118	8	8	4	4	10	20	41	67	55	37	5
"Pneumonia".....	20	1	5	...	...	...	1	2	1	2	3	3	2	...
Emphysema, Asthma	19	...	...	...	...	...	...	2	...	4	5	5	3	...
Pleurisy	16	1	2	...	...	1	1	2	1	1	4	3	...	...
Fibroid Disease of Lung.....	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Respiratory Dis: (Other)	50	1	...	2	..	1	1	2	6	5	5	10	13	4
6. DIS: OF DIGESTIVE SYS:														
Tonsillitis, Quinsy	6	1	...	1	...	...	1	...	1	...	1	1	...	...
Mouth, Pharynx	1	...	...	...	...	...	...	...	...	...	1	...	...	...
Gastric Ulcer.....	62	...	...	...	...	1	...	6	12	23	11	7	1	1
Gastric Catarrh.....	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Stomach (Other Dis:)	14	4	3	...	...	...	...	1	..	1	...	3	2	...
Enteritis.....	19	1	1	...	...	...	1	3	1	2	5	3	2	...
Gastro-Enteritis.....	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Appendicitis, Perityph :	44	...	2	5	4	4	4	8	5	4	5	2	...	1
Hernia	37	2	...	...	...	...	...	...	1	4	12	12	5	1
Intestinal Obstruct:.....	55	7	2	...	1	1	1	2	6	10	5	15	5	...
Other Diseases of Intestines ..	15	1	1	...	...	...	1	1	...	5	4	2	...	...
Peritonitis	29	2	3	4	...	...	1	2	2	8	3	3	1	...
Cirrhosis of Liver.....	17	...	...	...	...	...	...	1	1	4	5	4	2	...
Liver	32	...	1	1	...	...	2	...	1	7	7	9	4	...
Biliary Calculi ..	4	...	...	...	...	...	...	...	...	1	1	1	...	1
Digestive System (Other Dis:)	19	...	...	2	2	...	2	...	2	..	4	5	2	...
7. DIS : OF LYMPHATIC AND DUCTLESS GLANDS.														
Spleen, Disease of.....	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Lymphat: Syst: (Other Dis:)	22	...	1	...	...	1	..	6	4	2	4	2	2	...
Thyroid Body (Other Dis:)	1	1	...	...	...	...	...	...	...	...	...	...	...	...
Addison's Dis : (Dis: of)	7	...	...	...	...	...	1	...	1	...	4	1	...	...
8. DISEASES OF URINARY SYSTEM.														
Nephritis Ac: Uræmia	46	2	...	3	1	1	2	1	1	7	12	6	8	2
Ch : Bright's Dis : Albumin : ...	243	...	...	...	2	1	6	14	19	29	63	71	38	...
Calculus	4	...	...	...	...	...	...	...	1	...	2	1	...	...
Bladder and Prostate Dis : ..	63	...	...	...	...	...	...	...	1	...	12	31	16	3
Urinary Syst : (Other Dis :) ...	26	1	1	...	...	1	1	1	3	4	2	4	1	1

TABLE A, 1932—concluded.

CAUSES OF DEATH	AGES AT DEATH													
	All Ages	UNDER 5 YEARS		5 to 10	10 to 15	15 to 20	20 to 25	25 to 35	35 to 45	45 to 55	55 to 65	65 to 75	75 to 85	85 and upwards
		0 to 1	1 to 5											
9. DISEASES OF GENERATIVE SYSTEM.														
Ovarian Tumour	2	...	...	...	...	...	...	...	...	1	...	...	1	...
Other Dis : of Ovary	1	...	...	...	...	...	...	...	...	...	1	...	...	...
Uterine Tumour	1	...	...	...	...	...	...	...	...	...	1	...	...	...
Other Dis: of Uterus and Vagina	1	...	...	...	...	...	...	...	...	...	...	...	1	...
Disord: of Menstruation .....	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Gener: and Mam: Orgs: (Other)	4	...	...	...	...	...	...	1	1	2	...	...	...	...
10. DISEASES OF PREGNANCY AND CHILDBIRTH.														
Abortion, Miscarriage	2	...	...	...	...	...	1	1	...	...	...	...	...	...
Puerperal Mania .....	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Puerperal Convulsions	1	...	...	...	...	...	1	...	...	...	...	...	...	...
Placenta Præv: Flooding.....	6	...	...	...	...	...	...	1	5	...	...	...	...	...
Other Ac: of Preg: & Childbirth	16	...	...	...	...	...	2	12	2	...	...	...	...	...
11. DISEASES OF LOCOMOTOR SYSTEM.														
Caries, Necrosis	1	...	...	...	...	...	...	...	...	1	...	...	...	...
Arthritis, Periostitis	8	...	...	1	2	...	...	...	...	...	1	1	2	1
Locomotor Sys : (Other)	10	...	1	1	1	2	1	1	1	1	1	...	...	...
12. DISEASES OF THE SKIN.														
Ulcer, Bedsore	3	...	...	...	...	...	...	...	...	...	1	2	...	...
Eczema	2	1	...	...	...	...	...	...	...	...	1	...	...	...
Pemphigus.....	2	2	...	...	...	...	...	...	...	...	...	...	...	...
Skin Diseases (Other)	13	1	...	...	...	1	3	...	1	2	2	...	3	...
C.—Other Specified Diseases														
D.—Ill-defined and not Specified Diseases.														
Atrophy, Debility.....	28	26	1	...	1	...	...	...	...	...	...	...	...	...
Old Age	361	...	...	...	...	...	...	...	1	1	13	108	166	72
Dropsy, Ascites, Anasarca .....	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Tumour	15	...	...	...	...	...	...	...	3	3	6	3	...	...
Abscess .....	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Hæmorrhage .....	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Sudden (cause unascertained)...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Other Ill-defined .....	...	...	...	...	...	...	...	...	...	...	...	...	...	...
E.—Violent Deaths.														
1. ACCIDENT.														
In Mines and Quarries.....	...	...	...	...	...	...	...	...	...	...	...	...	...	...
By Vehicles { On Railways ...	6	...	...	...	...	...	1	2	1	1	1	...	...	...
By Vehicles { In Streets.....	117	...	12	13	7	10	16	17	4	9	17	4	8	...
Ships, Boats, Docks (not Drowning) .....	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Building Operations	1	...	...	...	...	...	...	1	...	...	...	...	...	...
Machinery	2	...	...	...	...	2	...	...	...	...	...	...	...	...
Weapons and Implements .....	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Burns and Scalds	23	4	5	1	1	1	1	2	...	1	1	4	2	...
Poison, Poisonous Vapours.....	8	...	2	...	...	...	...	...	2	...	4	...	...	...
Drowning	26	...	...	...	...	1	3	3	...	6	8	4	1	...
Suffocation.....	8	4	...	...	...	1	...	...	...	...	1	2	...	...
Falls	73	...	2	1	2	...	1	6	3	6	8	12	27	5
Weather Agencies.....	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Otherwise or not Stated	19	1	2	1	1	...	3	3	2	1	2	2	1	...
2. HOMICIDE.														
...	2	1	...	...	...	...	...	...	1	...	...	...	...	...
3. SUICIDE.														
...	115	...	...	...	...	2	7	10	20	29	34	9	4	...
4. EXECUTION.														
...	1	...	...	...	...	...	...	1	...	...	...	...	...	...

TABLE B.—MANCHESTER, 1932.
CAUSES OF DEATHS AT DIFFERENT LIFE PERIODS—MALES.

Classes	CAUSES OF DEATH	All Ages Total	AGES AT DEATH—IN YEARS													5 years and over
			UNDER 5 YEARS		5 to 10	10 to 15	15 to 20	20 to 25	25 to 35	35 to 45	45 to 55	55 to 65	65 to 75	75 to 85		
			0 to 1	1 to 5												
A	All Causes	5276	610	272	89	49	82	127	234	321	696	1026	1102	595	73	
	Smallpox .....	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Measles	77	18	53	5	...	...	1	...	...	...	...	...	...	...
	Scarlet Fever	13	...	5	7	...	...	1	...	...	...	...	...	...	...
	Typhus Fever.....	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Whooping Cough	40	22	18	...	...	...	...	...	...	...	...	...	...	...
	Diphtheria	37	2	14	14	6	...	1	...	...	...	...	...	...	...
	Ill-defined Fever.....	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Enteric Fever	3	...	1	...	...	1	...	...	...	1	...	...	...	...
	Influenza	88	4	4	2	...	...	2	7	12	17	22	13	4	1
	Epidemic Diarrhoea	1	...	1	...	...	...	...	...	...	...	...	...	...	...
	Diarrhoea, Dysentery, Simple Cholera.....	76	69	5	...	1	...	...	...	...	...	...	1	...	...
	Venereal Affections.....	38	10	1	...	...	...	...	...	...	9	11	6	1	...
	Erysipelas	13	4	...	...	...	...	...	1	2	2	3	1	...	...
	Pyæmia, Septicæmia (Others) ...	13	1	2	...	...	1	2	3	...	3	1	...	...	...
	Other Zymotics	37	11	3	4	...	2	2	4	2	4	2	2	1	...	
	Tuberc. Periton: Tabes Mes: ...	9	1	3	1	...	...	1	3	...	...	...	...	...	...
	Tubercular Meningitis	35	4	13	8	4	5	...	...	1	...	...	...	...	...
	Phthisis.....	447	...	9	...	1	17	43	69	85	129	75	19	...	...
	Tuberculous Dis. (Other).....	25	1	4	1	2	3	3	5	...	3	1	...	2	...	
	Parasitic Diseases	2	...	...	...	...	...	...	...	1	...	...	1	...	...
	Alcoholism	3	...	...	...	...	...	...	...	...	1	2	...	...	...
	Rheumatic Fever.....	27	...	...	4	4	2	2	2	4	1	4	1	3	...
Cancer	610	...	...	...	...	2	2	13	27	84	218	214	45	5	
Premature Birth.. ..	132	132	...	...	...	...	...	...	...	...	...	...	...	...
Congenital Defects.....	46	41	3	2	...	...	...	...	...	...	...	...	...	...
Atelectasis	18	18	...	...	...	...	...	...	...	...	...	...	...	...
Epilepsy	23	...	...	...	...	3	3	4	5	4	2	2	...	...
Convulsions	24	20	4	...	...	...	...	...	...	...	...	...	...	...
Nervous Syst: (Other)	122	3	3	3	3	2	3	6	11	25	26	32	5	...		
Cereb: Hæm: Apoplexy, Hemip: ...	203	6	1	1	...	2	...	5	3	16	60	71	36	2		
Heart and Blood Vessel Dis: ...	1176	1	...	3	3	4	7	8	39	145	253	399	286	28		
B and C	Pleurisy	9	...	1	...	...	1	1	...	1	1	4	...	...	...
	Bronchitis	273	27	4	...	...	...	1	4	11	42	71	60	48	5
	Pneumonia { Lobar-Croupous..	230	14	15	8	2	7	9	21	30	50	44	24	6	...	
	{ Broncho-Lobular.	315	108	66	4	3	3	1	4	13	25	42	28	17	1	
	“Pneumonia”.....	12	1	3	...	...	...	...	...	1	1	2	2	2	...
	Respiratory Dis: (Other)	43	1	...	1	...	...	...	3	5	7	7	9	7	3
	Cirrhosis	10	...	...	...	...	...	...	1	1	3	3	1	1	...
	Digestive Syst: (Other).....	182	12	5	5	5	4	6	16	19	43	30	30	6	1	
	Urinary Syst: (Other)	220	1	...	1	2	3	6	7	14	21	50	74	37	4	
	Generative Organs .....	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Other specified Diseases	199	58	13	5	4	7	4	9	12	17	29	29	11	1	
	D	Marasmus and Atrophy.....	16	15	1
		Old Age	142	8	53	62	19	...
Other Ill-defined Causes		12	...	...	...	...	...	...	...	3	2	5	2	...	...
E	Violence	189	5	17	10	9	13	20	30	6	19	26	20	11	3	
	Homicide .....	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Suicide ...	85	...	...	...	...	...	6	9	14	22	25	6	3	...
	Execution.....	1	...	...	...	...	...	...	1	...	...	...	...	...	...

TABLE C.—MANCHESTER, 1932.
CAUSES OF DEATHS AT DIFFERENT LIFE PERIODS—FEMALES.

Classes	CAUSES OF DEATH	All Ages Total	AGES AT DEATH—IN YEARS													
			UNDER 5 YEARS		5 to 10	10 to 15	15 to 20	20 to 25	25 to 35	35 to 45	45 to 55	55 to 65	65 to 75	75 to 85	85 and upwards	
			0 to 1	1 to 5												
	All Causes	4738	399	230	79	57	79	148	238	285	491	766	988	796	182	
A	Smallpox .....	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Measles.....	45	8	32	3	...	1	...	...	...	...	1	...	...	...
	Scarlet Fever	5	...	4	1	...	...	...	...	...	...	...	...	...	...
	Typhus Fever .....	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Whooping Cough	40	9	31	...	...	...	...	...	...	...	...	...	...	...
	Diphtheria	43	1	17	20	2	1	...	...	1	1	...	...	...	..
	Ill-defined Fever.....	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Enteric Fever	1	...	...	...	...	1	...	...	...	...	...	...	...	...
	Influenza	93	4	...	4	1	4	1	7	9	13	25	18	4	3	
	Epidemic Diarrhœa	2	1	1	...	...	...	..	...	...	...	...	...	...	..
	Diarrhœa, Dysentery, Simple Cholera.....	37	32	5	...	...	...	...	...	...	...	...	...	...	...
	Venereal Affections.....	7	4	...	...	...	...	...	...	...	1	1	1	...	...
	Erysipelas.....	12	1	1	...	...	...	1	...	1	2	3	2	1	..
	Pyæmia, Septicæmia (Others) ...	13	1	1	...	...	1	1	2	3	3	...	1	...	...
	Puerperal Fever	18	...	...	...	...	...	4	9	5	...	...	...	...	...
	Other Zymotics	23	5	4	3	2	1	3	2	2	...	1	...	...	..
	Tubercular Periton : Tabes Mes.	6	...	...	1	...	1	...	...	2	1	1	...	...	...
	Tubercular Meningitis	31	1	14	7	3	1	1	2	1	1	...	...	...	...
	Phthisis.....	323	2	8	2	9	35	71	82	51	38	16	8	1	..	
	Tuberculous Diseases (Other) ...	20	...	4	2	1	2	2	...	...	3	3	...	3	..
	Parasitic Diseases .....	...	...	...	...	...	...	...	...	...	...	...	...	...	..
	Alcoholism	2	...	...	...	...	...	...	1	...	...	1	...	...	..
	Rheumatic Fever	35	...	...	3	4	5	4	4	9	2	3	1	...	..
	Cancer	648	...	...	...	3	...	2	18	51	145	175	161	79	14
Premature Birth	97	97	...	...	...	...	...	...	...	...	...	...	...	...
Congenital defects	51	44	4	1	...	1	1	...	...	...	...	...	...	...
Atelectasis	13	13	...	...	...	...	...	...	...	...	...	...	...	..
B and C	Epilepsy	18	...	1	1	1	1	2	2	4	...	3	1	2	...	
	Convulsions	20	19	1	...	...	...	...	...	...	...	...	...	...	...
	Nervous System (Other).....	126	6	6	1	6	3	5	6	15	26	25	20	6	1	
	Cerebral Hæmorrhage, Apoplexy, and Hemiplegia	246	1	...	...	...	1	...	...	6	28	57	79	66	8
	Heart and Blood Vessel Diseases	1161	1	3	3	10	6	12	30	40	91	212	371	314	68	
	Pleurisy.....	7	1	1	...	...	...	...	2	...	...	...	3	...	...
	Bronchitis	258	18	7	2	...	...	...	3	6	15	40	82	68	17
	Pneumonia { Lobar-Croupous	108	9	6	1	1	3	5	10	12	16	22	13	9	1	
	{ Broncho-Lobular	232	62	52	4	5	1	3	6	7	16	25	27	20	4	
	“Pneumonia”.....	8	...	2	...	...	...	1	2	...	1	1	1	...	...
	Respiratory Diseases (Other) ...	29	2	...	1	...	1	1	1	1	3	3	6	9	1	
	Cirrhosis	7	...	...	...	...	...	...	...	...	1	2	3	1	..
	Digestive System (Other).....	155	6	8	8	2	2	7	7	12	22	29	33	16	3	
	Urinary System (Other)	156	2	1	2	1	...	3	9	11	19	41	39	26	2	
	Generative Organs and Childbirth	34	...	...	...	...	...	4	15	8	3	2	...	2	...
	Other specified Diseases	248	33	10	3	3	3	8	13	14	26	43	51	36	5	
	D	Marasmus and Atrophy.....	12	11	1
		Old Age	219	1	1	5	55	104	53
		Other Ill-defined Causes	3	1	1	1
	E	Violence	94	4	6	6	2	2	5	4	6	5	16	8	28	2
		Homicide.....	2	1	1
		Suicide	30	2	1	1	6	7	9	3	1	...

TABLE D.
MANCHESTER, 1932.—CAUSES OF DEATH IN INFANCY AND
CHILDHOOD.

CAUSES OF DEATH	UNDER ONE YEAR			Total under One Year	ONE AND UNDER FIVE YEARS				Total under Five Years
	Under 3 months	3-6 months	6-12 months		1-	2-	3-	4-	
All Causes	612	166	231	1,009	263	100	78	61	1,511
Chicken Pox.....	2	2	1	5	...	...	...	...	5
Measles .....	...	2	24	26	55	14	11	5	111
Scarlatina .....	...	...	...	...	1	2	5	1	9
Whooping Cough	3	9	19	31	29	11	5	4	80
Diphtheria.....	1	...	2	3	7	1	6	17	34
Erysipelas	1	2	2	5	1	...	...	...	6
Diarrhoeal Diseases	38	33	31	102	9	1	2	...	114
Gastritis.....	...	...	...	...	...	...	...	...	...
Syphilis	7	4	3	14	1	...	...	...	15
Tabes Mesenterica and Tuberc. Peritonitis	...	...	1	1	...	2	...	1	4
Tubercular Meningitis	1	2	2	5	10	4	7	6	32
Tuberculosis (Other) .....	...	...	3	3	12	7	2	4	28
Rickets .....	...	...	5	5	12	1	...	...	18
Premature Birth	219	9	1	229	...	...	...	...	229
Injury at Birth	28	...	...	28	...	...	...	...	28
Atelectasis.....	30	1	1	32	...	...	..	...	32
Congenital Malformations	72	8	4	84	5	...	2	...	91
Convulsions	23	11	5	39	2	3	...	...	44
Meningitis.....	1	2	4	7	...	5	1	...	13
Nervous Diseases (Other)...	1	...	1	2	1	...	3	...	6
Bronchitis	24	9	12	45	8	2	1	...	56
Pneumonia	67	51	76	194	85	34	17	8	338
Other Respiratory Diseases	3	...	1	4	1	1	...	...	6
Atrophy, Marasmus	13	10	3	26	1	...	...	...	27
Found Dead in Bed (over- laid)	2	2	...	4	...	...	...	...	4
Suffocation .....	...	...	...	...	...	...	...	...	...
Violence (Other forms).....	1	2	3	6	6	4	7	6	29
Ill-defined Causes.....	...	...	...	...	...	..	...	...	...
Unclassified	75	7	27	109	17	8	9	9	154

PUBLIC INSTITUTIONS; ALSO QUINQUENNIAL AVERAGES 1871-1932.

Year	Estimated Population (Mean)	Persons Married	Annual Rates per 1,000 persons living										Percentage to Total Deaths		Infantile Mortality	Year	
			Deaths (all causes)	Smallpox	Measles	Scarlet Fever	Diphtheria	Whooping Cough	Typhus Fever	Enteric Fever	Simple Continued Fever	Diarrhoea Diseases	Violence	Inquest Cases			Deaths in Public Institutions
1871-1875	477,344	24.6	28.3	0.26	0.64	1.08	0.08	0.78	0.14	0.43	0.21	1.95	0.94	7.2	13.4	198	.. 1871-1875
1876-1880	509,802	18.6	26.2	0.24	0.53	1.07	0.13	0.84	0.08	0.29	0.11	1.26	0.89	7.5	14.3	172	.. 1876-1880
1881-1885	542,746	17.9	23.6	0.04	0.71	0.48	0.10	0.68	0.05	0.20	0.03	0.99	0.72	7.0	15.9	175	.. 1881-1885
1886-1890	575,630	16.6	24.6	0.02	0.83	0.50	0.32	0.54	0.02	0.30	0.01	1.08	0.78	6.9	17.7	183	.. 1886-1890
1891-1895	517,801	16.9	23.6	0.03	0.62	0.26	0.27	0.64	0.00	0.24	0.01	1.19	0.77	7.1	19.2	186	. 1891-1895
1896-1900	539,599	18.2	22.7	..	0.89	0.20	0.13	0.53	0.00	0.18	0.01	1.69	0.73	7.1	20.2	192	.. 1896-1900
1901-1905	554,355	17.4	20.1	0.01	0.55	0.19	0.22	0.41	0.00	0.13	0.00	1.15	0.72	7.1	24.4	173	.. 1901-1905
1906-1910	660,049	17.0	17.7	..	0.54	0.16	0.17	0.37	0.00	0.10	0.00	0.76	0.68	7.4	27.3	147	.. 1906-1910
1911-1915	731,677	17.6	16.4	..	0.50	0.12	0.14	0.25	..	0.05	..	0.84	0.67	7.9	30.8	133	. 1911-1915
1916-1920	770,330	16.7	14.1	..	0.24	0.04	0.08	0.21	..	0.02	0.00	0.30	0.49	6.4	32.3	105	.. 1916-1920
1921-1925	751,288	16.8	13.9	..	0.25	0.06	0.10	0.20	..	0.01	..	0.33	0.44	5.7	37.8	95	.. 1921-1925
1926-1930	759,570	17.3	13.8	..	0.18	0.02	0.11	0.14	..	0.01	..	0.24	0.46	4.8	42.9	88	.. 1926-1930
1927..	757,319	17.7	13.9	..	0.21	0.03	0.12	0.16	..	0.00	..	0.20	0.43	5.0	42.0	86	.. 1927
1928..	759,563	17.1	13.1	..	0.16	0.02	0.13	0.12	..	0.01	..	0.26	0.45	4.7	43.5	91	.. 1928
1929..	761,813	18.0	15.5	0.00	0.08	0.01	0.07	0.29	..	0.01	..	0.24	0.49	3.3	43.2	97	.. 1929
1930..	764,070	17.4	13.1	..	0.23	0.02	0.07	0.05	..	0.01	..	0.19	0.50	5.1	46.7	79	.. 1930
1931..	766,378	16.2	13.9	..	0.08	0.01	0.08	0.11	..	0.01	..	0.20	0.46	4.6	46.8	84	.. 1931
1932..	768,745	16.0	13.0	..	0.16	0.02	0.10	0.10	..	0.01	..	0.15	0.52	5.7	47.6	85	.. 1932

The populations and rates prior to 1891 are those for the Unions of Manchester, Chorlton, and Prestwich, which have been taken as approximately representing "Manchester." The City was extended to include Moss Side and Withington in November, 1904, Gorton and Levenshulme in November, 1909, and Wythenshawe, April, 1931.

TABLE F.
MANCHESTER—ANNUAL RATES OF MORTALITY FROM CERTAIN CAUSES OF DEATH.

YEAR		ANNUAL RATES PER 1,000 PERSONS LIVING										RATE PER 1,000 BIRTHS	
		Cancer	Tuberc. Peritonitis Tabes Mes.	Phthisis	Other Tuberc. Diseases	Diseases of Nervous System	Diseases of Heart and Blood Vessels	Diseases of Respiratory System	Diseases of Digestive System	Diseases of Urinary System	Diseases of Generative System	Puerperal Fever	
1881-1885	..	0.50	0.35	2.42	0.57	3.28	1.37	5.41	1.23	0.48	0.08	3.03	
1886-1890	..	0.64	0.36	2.24	0.59	3.09	1.73	5.76	1.23	0.61	0.08	3.22	
1891-1895	..	0.62	0.22	2.09	0.75	1.74	2.53	5.56	1.07	0.52	0.07	2.75	
1896-1900	..	0.73	0.19	2.04	0.63	1.32	2.54	5.03	1.04	0.49	0.09	1.55	
1901-1905	..	0.80	0.16	1.94	0.55	1.17	2.56	4.29	0.95	0.49	0.08	1.21	
1906-1910	..	0.88	0.14	1.65	0.45	0.95	2.56	3.75	0.84	0.54	0.07	1.28	
1911-1915	..	1.01	0.12	1.59	0.38	0.79	2.34	3.45	0.68	0.56	0.09	1.24	
1916-1920	..	1.08	0.09	1.39	0.28	0.54	2.27	2.98	0.51	0.47	0.06	1.58	
1921-1925	..	1.34	0.06	1.26	0.24	0.51	2.58	3.03	0.47	0.46	0.07	1.54	
1926-1930	..	1.45	0.03	1.16	0.19	0.48	3.05	2.66	0.45	0.50	0.07	1.74	
1926	..	1.44	0.03	1.19	0.19	0.49	2.74	2.61	0.46	0.47	0.08	1.79	
1927	..	1.42	0.03	1.15	0.20	0.48	2.95	2.93	0.42	0.47	0.08	1.60	
1928	..	1.44	0.04	1.10	0.15	0.50	2.94	2.42	0.46	0.55	0.06	1.78	
1929	..	1.47	0.03	1.21	0.17	0.50	3.46	3.24	0.45	0.49	0.06	1.46	
1930	..	1.47	0.03	1.15	0.22	0.45	3.14	2.10	0.45	0.54	0.06	2.07	
1931	..	1.62	0.03	1.12	0.14	0.45	3.49	2.59	0.44	0.50	0.06	1.22	
1932	..	1.64	0.02	1.00	0.15	0.43	3.62	1.98	0.46	0.49	0.02	1.52	

See footnotes to Table E.

TABLE G, 1932.—POPULATION, AREA, DENSITY. TOTAL BIRTHS AND DEATHS, WITH BIRTH AND DEATH RATES.

[INSTITUTION POPULATIONS, BIRTHS AND DEATHS, DISTRIBUTED.]

WARDS	Estimated Population	Area in Acres	Persons to an Acre	BIRTHS		DEATHS		Natural Rate of Increase
				Total	Rate per 1,000	Total	Rate per 1,000	
City	768,745	27,257	28	11,814	15·37	10,014	13·03	2·34
All Saints	23,021	300	77	484	21·02	367	15·94	5·08
Ardwick	25,898	426	61	468	18·07	371	14·33	3·74
Beswick	28,828	254	114	452	15·68	353	12·24	3·44
Blackley	20,417	1,158	18	246	12·05	223	10·92	1·13
Bradford	26,176	790	33	419	16·01	324	12·38	3·63
Cheetham	23,610	555	43	362	15·33	271	11·48	3·85
Chorlton-cum-Hardy	44,314	1,666	27	419	9·45	494	11·15	— 1·70
Collegiate Church	17,360	446	39	281	16·18	268	15·44	0·74
Collyhurst	24,190	231	105	424	17·53	345	14·26	3·27
Crumpsall	16,131	2,203	7	232	14·38	240	14·88	— 0·50
Didsbury	25,000	2,357	11	341	13·64	259	10·36	3·28
Exchange	348	61	6	...	...	3	8·62	— 8·62
Gorton North	22,723	604	38	298	13·11	276	12·15	0·96
Gorton South	28,570	628	45	406	14·21	281	9·84	4·37
Harpurhey	22,101	342	65	307	13·89	304	13·75	0·14
Levenshulme	20,164	606	33	220	10·91	249	12·35	— 1·44
Longsight	22,908	593	39	263	11·48	258	11·26	0·22
Medlock Street	28,396	212	134	570	20·07	377	13·28	6·79
Miles Platting	24,865	313	79	457	18·38	325	13·07	5·31
Moston	24,001	1,231	19	323	13·46	246	10·25	3·21
Moss Side East	20,413	241	85	324	15·87	289	14·16	1·71
Moss Side West	20,785	267	78	300	14·43	321	15·44	— 1·01
New Cross	27,058	303	89	578	21·36	498	18·40	2·96
Newton Heath	20,505	1,007	20	334	16·29	291	14·19	2·10
Openshaw	23,543	482	49	329	13·97	307	13·04	0·93
Oxford	770	167	5	10	12·99	17	22·08	— 9·09
Rusholme	22,069	806	27	243	11·01	247	11·19	0·18
St. Ann's	238	55	4	1	4·20	...	...	4·20
St. Clement's	6,382	181	35	140	21·94	96	15·04	6·90
St. George's	26,852	266	101	472	17·58	382	14·23	3·35
St John's	4,870	199	24	96	19·71	89	18·28	1·43
St. Luke's	27,745	316	88	507	18·27	474	17·08	1·19
St. Mark's	24,656	340	73	434	17·60	340	13·79	3·81
St. Michael's ..	19,519	243	80	392	20·08	325	16·65	3·43
Withington	47,311	1,841	26	574	12·13	415	8·77	3·36
Wythenshawe	7,008	5,567	1	108	15·41	89	12·70	2·71

TABLE H, 1932.

BIRTHS REGISTERED IN THE CITY OF MANCHESTER, IN WARDS, AND DISTINGUISHING LEGITIMATE AND ILLEGITIMATE BIRTHS; ALSO THE PROPORTION OF MORTALITY AMONG INFANTS OF BOTH CLASSES UNDER ONE YEAR OF AGE.

WARDS	BIRTHS		Percentage of Illegitimate Births to Total Births	DEATHS UNDER 1 YEAR		PROPORTION OF DEATHS UNDER 1 YEAR PER 1,000 BIRTHS		
	Total	Illegitimate		Total	Of Illegitimate Children	Total	Legitimate	Illegitimate
City	11,814	581	4·9	1,009	73	85	83	126
All Saints	484	59	12·2	56	12	116	104	203
Ardwick	468	24	5·1	42	2	90	90	83
Beswick	452	12	2·7	39	4	86	80	333
Blackley	246	8	3·2	29	3	118	109	375
Bradford	419	19	4·5	42	2	100	100	105
Cheetham	362	13	3·6	32	...	88	91	...
Chorlton-cum-Hardy	419	16	3·8	30	2	71	69	125
Collegiate Church	281	13	4·6	29	1	103	104	77
Collyhurst	424	17	4·0	44	1	104	106	59
Crumpsall	232	6	2·7	24	4	103	88	666
Didsbury	341	13	3·8	21	1	61	61	77
Exchange .....	...	...	...	...	...	...	...	...
Gorton North	298	8	2·7	18	1	60	59	125
Gorton South	406	15	3·7	18	...	44	46	...
Harpurhey	307	7	2·3	26	1	84	83	143
Levenshulme	220	11	5·0	12	...	55	57	...
Longsight	263	13	4·9	15	3	57	48	231
Medlock Street	570	38	6·6	50	7	88	81	184
Miles Platting	457	12	2·6	49	2	107	106	166
Moston	323	4	1·2	30	...	93	94	...
Moss Side East	324	38	11·7	29	3	90	91	79
Moss Side West	300	22	7·3	22	2	73	72	91
New Cross	578	21	3·6	59	2	102	102	95
Newton Heath	334	9	2·7	22	2	66	62	222
Openshaw	329	15	4·6	33	...	100	105	...
Oxford	10	...	...	...	...	...	...	...
Rusholme	243	20	8·2	13	1	56	54	50
St. Ann's	1	...	...	...	...	...	...	...
St. Clement's	140	8	5·7	16	1	114	113	125
St. George's	472	27	5·7	35	2	74	74	74
St. John's	96	12	12·6	10	1	104	107	83
St. Luke's	507	51	10·1	52	5	102	103	98
St. Mark's	434	15	3·4	34	4	78	72	266
St. Michael's	392	21	5·4	38	...	97	102	...
Withington	574	12	2·1	38	4	66	60	333
Wythenshawe	108	2	1·8	2	...	18	19	...

TABLE I, 1932.

MANCHESTER.—CERTIFICATION OF THE CAUSES OF DEATH IN THE CITY
AND IN THE VARIOUS WARDS.

WARDS	Total Deaths	Certified by		Not Certified	Proportion per cent. of Deaths		
		Registered Medical Practitioners	Inquest		Certified by		Not Certified
					Regist'd Medical Prac- titioners	Inquest	
City	10,014	9,387	522	105	93·8	5·2	1·0
All Saints	367	345	18	4	94·0	4·9	0·1
Ardwick	371	360	10	1	97·0	2·7	0·3
Beswick	353	325	24	4	92·1	6·8	1·1
Blackley	223	207	11	5	92·9	4·9	2·2
Bradford	324	306	16	2	94·5	4·9	0·6
Cheetham	271	254	16	1	93·7	5·9	0·4
Chorlton-cum-Hardy	494	456	33	5	92·3	6·7	1·0
Collegiate Church	268	250	14	4	93·3	5·2	1·5
Collyhurst	345	324	20	1	93·9	5·8	0·3
Crumpsall ..	240	229	6	5	95·4	2·5	2·1
Didsbury.....	259	236	20	3	91·1	7·7	1·2
Exchange	3	3	...	...	100·0	...	...
Gorton North.....	276	267	6	3	96·7	2·2	1·1
Gorton South	281	269	12	...	95·7	4·3	...
Harpurhey	304	288	16	...	94·7	5·3	...
Levenshulme	249	230	16	3	92·4	6·4	1·2
Longsight	258	248	10	...	96·1	3·9	...
Medlock Street	377	350	19	8	92·9	5·0	2·1
Miles Platting.....	325	305	17	3	93·9	5·2	0·9
Moston	246	234	10	2	95·1	4·1	0·8
Moss Side East	289	269	13	7	93·1	4·5	2·4
Moss Side West	321	296	20	5	92·2	6·2	1·6
New Cross	498	470	25	3	94·4	5·0	0·6
Newton Heath	291	271	18	2	93·1	6·2	0·7
Openshaw	307	288	18	1	93·8	5·9	0·3
Oxford	17	15	1	1	88·2	5·9	5·9
Rusholme	247	229	14	4	92·7	5·7	1·6
St. Ann's.....	...	...	...	...	...	...	...
St. Clement's	96	89	7	...	92·7	7·3	...
St. George's	382	355	25	2	92·9	6·5	0·6
St. John's	89	79	7	3	88·8	7·8	3·4
St. Luke's	474	447	18	9	94·3	3·8	1·9
St. Mark's	340	323	15	2	95·0	4·4	0·6
St. Michael's	325	302	19	4	92·9	5·9	1·2
Vithington.....	415	386	21	8	93·0	5·1	1·9
Vythenshawe	89	82	7	...	92·2	7·8	...

NOTIFIABLE INFECTIOUS DISEASES OTHER THAN WHOOPING COUGH AND TUBERCULOSIS.

The diseases included in the Infectious Disease (Notification) Acts, 1889 and 1899, or regulations under the Public Health Acts, are as follows:—Smallpox, Chickenpox, Scarlet Fever, Diphtheria, Typhus Fever, Enteric or Typhoid Fever, Relapsing Fever, Continued Fever, Puerperal Fever, Puerperal Pyrexia, Erysipelas, Ophthalmia Neonatorum, Cerebro-Spinal Fever, Poliomyelitis, Polio-Encephalitis and Encephalitis-Lethargica, Malaria, Dysentery, Acute Primary Pneumonia, Acute Influenzal Pneumonia, Measles, Rubella, and Pemphigus Neonatorum. The following cases were notified in 1932, and the numbers are compared with the average of the previous ten years:—

	1922	1923	1924	1925	1926	1927	1928	1929	1930	1931	Mean	1932
Smallpox	4	..	..	..	2	36	68	8	2	..	12	..
Chickenpox	2,860	3,354	3,574	4,105	5,783	3,823	3,777	3,510	3,299	4,792	3,888	3,530
Scarlet Fever	3,618	1,814	1,784	2,869	2,259	1,823	2,100	2,318	3,701	2,913	2,520	2,280
Diphtheria	806	536	570	1,040	1,145	1,208	1,033	761	838	573	851	888
Typhus Fever .. .. .	..	..	..	..	..	..	..	..	..	..	..	..
Enteric Fever	36	50	103	65	30	18	32	41	33	24	43	30
Relapsing Fever .. .. .	..	..	..	..	..	..	..	..	..	..	..	..
Puerperal Fever	130	130	115	179	174	107	133	144	156	139	141	95
Puerperal Pyrexia .. .. .	..	..	..	..	32	102	66	80	88	80	100	70
Erysipelas	379	294	284	412	378	358	428	441	501	399	387	330
Ophthalmia Neonatorum	263	227	336	266	218	192	192	137	144	119	209	100
Cerebro-Spinal Fever	8	3	11	9	12	9	9	17	22	38	14	20
Poliomyelitis	7	4	7	12	12	12	8	4	3	4	7	1
Polio-Encephalitis .. .. .	..	..	1	4	2	..	2	2	..	..	2	..
Encephalitis-Lethargica	9	36	244	78	91	65	50	37	23	24	66	9
Malaria	19	16	3	4	1	3	15	14	1	1	8	1
Dysentery	3	2	2	1	2	2	13	4	17	6	5	1
Primary Pneumonia	2,268	2,067	2,203	2,200	1,876	2,260	2,176	2,265	2,059	2,005	2,213	2,040
Influenzal Pneumonia	487	426	447	351	313	690	363	875	290	480	484	320
Measles	19,614	3,481	18,349	7,941	10,953	13,987	7,141	9,512	10,738	7,771	10,949	12,230
Rubella	177	94	224	2,107	1,128	407	1,498	499	237	2,553	892	1,680
Pemphigus Neonatorum .. .. .	..	..	..	83	128	116	106	87	112	64	89	46
	30,688	12,534	28,257	21,726	24,539	25,218	19,210	20,756	22,264	21,985	22,880	23,740

In 1900 Erysipelas was made notifiable, in 1910 Ophthalmia Neonatorum, in 1912 Cerebro-Spinal Fever and Poliomyelitis. Measles and Rubella were made notifiable in 1916, and Polio-Encephalitis, Encephalitis-Lethargica, Malaria, Dysentery, Primary Pneumonia, Influenzal Pneumonia in 1919.

From 1919 (September) Chickenpox has been notifiable, and in 1925 (September) Pemphigus Neonatorum was made notifiable.

Puerperal Pyrexia was made notifiable on October 1st, 1926.

CHICKENPOX.

Chickenpox was made a notifiable disease on September 15th, 1919, for six months, and its notifiability has been renewed from time to time since that date.

CHICKENPOX.—NUMBER OF ATTACKS AT DIFFERENT AGES DURING 1932.

Under 1 year	..	..	..	..	..	..	..	126
1—2 years	..	..	..	..	..	..	..	204
2—3 „	..	..	..	..	..	..	..	221
3—4 „	..	..	..	..	..	..	..	317
4—5 „	..	..	..	..	..	..	..	385
5—9 „	..	..	..	..	..	..	..	1,974
10—14 „	..	..	..	..	..	..	..	237
15—19 „	..	..	..	..	..	..	..	43
20—24 „	..	..	..	..	..	..	..	16
25—44 „	..	..	..	..	..	..	..	10
45— „	..	..	..	..	..	..	..	3
TOTAL								<u>3,536</u>

The deaths from the more common diseases are shown in the following figures :—

Years	Measles	Scarlet Fever	Diphtheria	Enteric Fever	Influenza	Whooping Cough	Diarrhœa	Phthisis
1921—31 average	165	28	76	7	330	122	188	925
1932	122	18	80	4	181	80	114	770

Consultations.—Ninety-six consultation visits were made during the year by Medical Officers of the Department at the request of medical practitioners in the City in connection with the diagnosis of cases of infectious disease in which the nature of the illness was in doubt.

SMALLPOX.

No cases of smallpox occurred in the City in 1932.

SCARLET FEVER.

The following figures show the course of the disease in quarters:—

TABLE I.—SCARLET FEVER.—ATTACKS IN QUARTERS ACCORDING TO DATE OF RASH.

Year	First Quarter	Second Quarter	Third Quarter	Fourth Quarter	Total
1927 .	362	397	441	623	1823
1928 ..	519	483	488	610	2100
1929 ..	442	428	608	840	2318
1930 ..	775	738	885	1303	3701
1931 ..	889	729	612	683	2913
5 years Mean	597	555	607	812	2571
1932 ..	560	579	506	638	2283

TABLE 2.—1932.—SCARLET FEVER ATTACKS IN WARDS, WITH ATTACK RATE, CASE FATALITY PER CENT., AND REMOVALS TO HOSPITAL PER CENT.

WARDS	ATTACKS	ATTACK RATE PER 1,000 LIVING	† CASE FATALITY PER CENT.	REMOVALS TO HOSPITAL PER CENT.
City	2,283	2.97	0.74	80.25
All Saints	45	1.95	4.4	93.3
Ardwick	130	5.02	0.8	90.0
Beswick	65	2.25	—	89.2
Blackley	60	2.95	3.3	80.0
Bradford	72	2.75	—	86.1
Cheetham	47	1.99	—	70.2
Chorlton-cum-Hardy..	96	2.17	—	68.8
Collegiate Church ..	57	3.28	—	94.7
Collyhurst	72	2.98	—	88.9
Crumpsall	48	2.98	2.0	39.6
Didsbury	85	3.40	2.4	69.4
Exchange	—	—	—	—
Gorton North	53	2.33	—	81.1
Gorton South	97	3.40	1.0	76.3
Harpurhey	78	3.53	—	73.1
Levenshulme	49	2.43	—	71.4
Longsight	102	4.45	0.9	65.7
Medlock Street	116	4.09	—	89.7
Miles Platting	96	3.86	1.0	87.5
Moston	63	2.63	—	63.5
Moss Side East	79	3.87	—	86.1
Moss Side West.. ..	34	1.64	—	79.4
New Cross	108	4.00	—	93.5
Newton Heath	46	2.24	—	82.6
Openshaw	45	1.91	—	91.1
Oxford	2	2.60	—	100.0
Rusholme	54	2.45	5.6	74.1
St. Ann's	—	—	—	—
St. Clement's	15	2.35	—	100.0
St. George's	90	3.35	1.1	85.6
St. John's	5	1.03	—	100.0
St. Luke's	92	3.32	—	84.8
St. Mark's	58	2.35	—	77.6
St. Michael's	55	2.82	—	90.9
Withington.. .. .	137	2.90	—	66.4
Wythenshawe	32	4.57	6.3	87.5

† Corrected ; the fatal cases are those actually occurring amongst the cases notified.

TABLE 3.—SCARLET FEVER.—NUMBER OF ATTACKS AND OF DEATHS ; ALSO THE CASE FATALITY PER CENT. AT DIFFERENT AGES FOR THE FORTY-ONE YEARS, 1891—1931 AND FOR 1932.

Ages	1891-1931			1932		
	Attacks	Deaths	Case Fatality per cent.	Attacks	Deaths	Case Fatality per cent.
Under 1 year	814	127	15.6	6	—	—
1 to 2 years ..	2427	314	12.9	73	1	1.4
2 to 3 „ ..	5634	501	8.9	136	2	1.5
3 to 4 „ .	7938	543	6.8	180	4	2.2
4 to 5 „ ..	9344	465	5.0	215	1	0.5
5 to 6 „ ..	10540	298	2.8	256	3	1.2
6 to 7 „ ..	9719	205	2.1	242	1	0.4
7 to 8 „ ..	8648	142	1.6	225	1	0.4
8 to 9 „ ..	7285	97	1.3	155	—	—
9 to 10 „ ..	6055	81	1.3	152	3	2.0
10 to 15 „ ..	17782	178	1.0	392	—	—
15 to 20 „ ..	5602	71	1.3	90	—	—
20 to 25 „ ..	2745	42	1.5	48	1	2.1
25 to 35 „ ..	2570	48	1.9	75	—	—
35 to 45 „ ..	810	20	2.5	31	—	—
45 and over	223	7	3.1	7	—	—
All ages	98136	3139	3.2	2283	17	0.74

TABLE 4.—SCARLET FEVER MORTALITY, 1932.—RATE PER 1,000 LIVING, COMPARED WITH MEAN OF FIVE YEARS.

	1927	1928	1929	1930	1931	Mean	1932
England and Wales	0·01	0·01	0·02	0·02	0·01	0·01	0·01
118 Great Towns	0·01	0·02	0·02	0·02	0·01	0·02	0·01
London	0·01	0·02	0·02	0·02	0·02	0·02	0·02
Manchester City	0·03	0·02	0·01	0·02	0·01	0·02	0·02
126 Smaller Towns	0·01	0·01	0·02	0·01	0·01	0·01	0·01

SCARLET FEVER, 1932.—ATTACKS IN WEEKS, ACCORDING TO DATE OF RASH.

FIRST QUARTER		SECOND QUARTER		THIRD QUARTER		FOURTH QUARTER	
Week of Year	1932	Week of Year	1932	Week of Year	1932	Week of Year	1932
1	51	14	59	27	41	40	49
2	43	15	32	28	47	41	59
3	60	16	49	29	34	42	56
4	54	17	39	30	54	43	43
5	46	18	48	31	26	44	55
6	36	19	50	32	35	45	55
7	50	20	35	33	21	46	33
8	39	21	40	34	36	47	56
9	37	22	44	35	55	48	52
10	31	23	58	36	34	49	51
11	38	24	41	37	36	50	51
12	48	25	44	38	38	51	37
13	27	26	40	39	49	52	41
Total ..	560	Total ..	579	Total ..	506	Total ..	638

City total, 1932—2,283.

SCARLET FEVER “ RETURN ” CASES, 1932.

Out of 2,103 discharges from Monsall Hospital, 86 gave rise to at least 86 “ return ” cases, a “ return ” case rate per cent of 4·1. In addition, 4 others contracted the disease indirectly from a returned patient.

Table showing the interval between return home of hospital patients and onset of illness in “ return ” cases.

Days							0-6	7-13	14-20	21-27
No. of Cases							26	32	19	9

DIPHTHERIA.

The following figures show the number of cases notified and accepted as diphtheria each year for the last ten years :—

1923	1924	1925	1926	1927	1928	1929	1930	1931	1932
536	570	1,040	1,145	1,208	1,033	761	838	573	885

Diphtheria incidence in Manchester was higher in 1932 than in the previous year, and the number of deaths from this disease was also greater.

Of the total number of formal notifications received it was found on investigation that 35 related to persons who were merely carriers of diphtheria-like organisms, themselves being in apparent good health. In addition, a further 59 “carriers” were discovered who were not notified as suffering from diphtheria.

This discrimination between clinical diphtheria and “carriers” which has been observed more strictly this year than in the past is responsible in part for the higher case mortality rate in 1932 as compared with previous years.

Nevertheless, during the last two years there has been a real increase in the mortality, due probably to the prevalence of a more virulent form of infection.

This increase in the mortality can only be combated by prompt and intensive treatment by anti-toxin. The difficulty in this regard becomes evident when it is considered that in the fatal cases which occurred in 1932 only 13 per cent. received treatment by anti-toxin within two days of the onset of the illness, and only 28 per cent. within three days. Such delay is disastrous. It is due in part to the hesitancy of the parent in seeking medical advice and in part to the difficulties of early diagnosis which confront the medical attendant.

EXAMINATION OF “CONTACTS.”

So far as was practicable, swabs were taken from the throats and noses of all members under 14 years of age of each family in which there had occurred a clinical case of diphtheria.

In all, 1,166 persons were swabbed and 149, or 12·8 per cent., gave positive results. Some of these were found to have clinical diphtheria, others proved to be merely “carriers,”

“ CARRIERS.”

A diphtheria “carrier” is a person who, although apparently in normal health, yet harbours in the throat or nose organisms indistinguishable from those of diphtheria. Not all the diphtheria-like organisms harboured by “carriers” are capable of provoking disease, and a virulence test is made to determine which are capable of so doing and which are not.

The following table relates to 94 “carriers” in which a virulence test was made, and is of interest in showing the type of “carriers” which were discovered and the number of such which were capable of spreading infection.

DIPHThERIA “CARRIERS.”
1932.

Type	Number of “ Carriers ”	Number virulent	Number non- virulent	Doubtful	Per cent. virulent
Nose	59	18	32	9	30·5
Throat	26	6	15	5	23·1
Nose and Throat	9	0	7	2	0·0
Total number of carriers	94	24	54	16	25·5

VIRULENCE TESTS.

The value of testing the virulence of diphtheria bacilli lies in the fact that, in the past, harbourers of the bacillus have been kept in isolation, sometimes for long periods, irrespective of whether or not the organisms were virulent. In cases where the test is negative isolation of the individual is unnecessary and uneconomic.

Table I. shows that during the year virulence tests were carried out in 284 cases, with 129 positive and 155 negative results.

TABLE I.
VIRULENCE TESTS, 1932.

Nature of case	Number in which diphtheria bacilli were present	Result of test	
		Virulent	Non-virulent
Diphtheria Cases	23	23	—
Diphtheria “ Contacts ” ..	79	35	44
Persons with Rhinitis ..	118	39	79
Other Cases.. .. .	64	32	32
Total	284	129	155

SUPPLY OF ANTITOXIN.

Diphtheria antitoxin, in phials containing 8,000 units, is supplied free of charge to all medical practitioners for the treatment of residents in the City, and may be obtained by them during office hours from the Public Health Office or at any time from the following fire stations :—Ash Street, Harpurhey ; New Street, Miles Platting ; Pollard Street, Ancoats ; Upton Street, Chorlton-upon-Medlock. It may also be obtained at any time from all the district police stations. The total quantity supplied in this manner in 1932 was 563 phials (4,504,000 units), at a cost of £178 5s. 8d.

DIPHTHERIA IMMUNISATION.

The “Schick” test is a simple means of gauging the susceptibility of individuals to diphtheria infection. The knowledge thus gained enables subsequent immunisation of susceptible persons to be carried out. The value of this procedure has been proved in this and other countries. At Monsall Hospital much work has been done on these lines with successful results, and it is now the practice to test and immunise all members of the nursing staff employed at the hospital and any patients, whose parents desire it, during their convalescence from other fevers.

COMMUNITY IMMUNISATION

On June 6th, 1928, the Manchester City Council approved a scheme for the free provision of the necessary material for “Schick” testing and immunisation against diphtheria to general medical practitioners for use in their private practices, and for immunisation to be carried out at the Public Health Department, Civic Buildings, at the Maternity and Child Welfare Centres, and at schools and school clinics.

In the following table are shown the numbers dealt with during 1932 :—

SUSCEPTIBILITY TESTS AND ACTIVE IMMUNISATION BY THE
PUBLIC HEALTH DEPARTMENT, 1932.

	Municipal Hospitals				Child Welfare Centres		Schools (1)		Public Health Office		General Practitioners		TOTALS	
	Staff		In-patients		Pos.	Neg.	Pos.	Neg.	Pos.	Neg.	Pos.	Neg.	Pos.	Neg.
	Pos.	Neg.	Pos.	Neg.										
Schick Tests	79	109	118	441	1	1	32	49	24	15	9	0	263	615
Number Immunised ..	72		2,376		2,820		471		329		94		6,162	
Diphtheria Prophylactic Injections	176		6,427		8,395		1,402		961		282		17,643	

During the year ninety-five per cent. received the full course of injections, and since the inception of this scheme in 1927, 21,064 persons have been dealt with.

TABLE II.

DIPHTHERIA, 1932.—ATTACKS IN WEEKS, ACCORDING TO DATE OF ONSET.

FIRST QUARTER		SECOND QUARTER		THIRD QUARTER		FOURTH QUARTER	
Week of Year	1932	Week of Year	1932	Week of Year	1932	Week of Year	1932
I	20	14	15	27	21	40	17
2	17	15	14	28	30	41	12
3	23	16	10	29	12	42	13
4	22	17	24	30	16	43	23
5	19	18	19	31	6	44	26
6	19	19	9	32	9	45	19
7	20	20	9	33	9	46	16
8	18	21	14	34	26	47	15
9	15	22	14	35	22	48	11
10	15	23	17	36	29	49	12
11	17	24	12	37	21	50	20
12	25	25	13	38	22	51	5
13	20	26	26	39	17	52	10
Total ..	250	Total ..	196	Total ..	240	Total ..	199

CITY TOTAL, 1932—885.

The following table shows that the number of attacks is highest in children up to 10 years.

TABLE III.
DIPHTHERIA.—NUMBER OF ATTACKS, OF DEATHS, AND CASE FATALITY AT DIFFERENT AGES FOR THE FORTY ONE YEARS, 1891-1931, AND FOR 1932.

Ages	1891-1931			1932		
	Attacks	Deaths	*Case Fatality %	Attacks	Deaths	*Case Fatality %
Under 1 year	532	293	55.1	19	3	15.8
1 to 2 years.. ..	1359	605	44.5	26	6	23.1
2 to 3 „	1927	568	29.5	43	2	4.7
3 to 4 „	2396	531	22.2	67	4	6.0
4 to 5 „	2590	486	18.8	75	18	24.0
5 to 6 „	2686	408	15.2	88	9	10.2
6 to 7 „	2211	261	11.8	75	6	8.0
7 to 8 „	1732	179	10.3	74	9	12.2
8 to 9 „	1382	141	10.2	74	11	14.9
9 to 10 „	1038	91	8.8	47	2	4.3
10 to 15 „	3012	135	4.5	158	7	4.4
15 to 20 „	1224	42	3.4	33	1	3.3
20 to 25 „	784	20	2.6	33	1	3.3
25 to 35 „	943	25	2.7	44	1	2.3
35 to 45 „	400	8	2.0	21	1	4.8
45 and over	201	16	8.0	8	1	12.5
All ages	24417	3809	15.6	885	82	9.3

* The percentages in this column are the actual proportions of fatal cases to the attacks at those ages.

The case fatality at all ages since 1913 has been as follows :—

1913	1914	1915	1916	1917	1918	1919	1920	1921	1922
—	—	—	—	—	—	—	—	—	—
14.9	14.3	18.8	11.7	10.8	10.8	9.1	7.3	8.7	9.8
1923	1924	1925	1926	1927	1928	1929	1930	1931	1932
—	—	—	—	—	—	—	—	—	—
9.5	9.3	8.8	8.6	8.3	8.1	7.8	6.4	10.1	9.3

TABLE IV.

DIPHTHERIA, 1932.—ATTACKS IN WARDS, WITH ATTACK RATE, CASE FATALITY PER CENT., AND REMOVALS TO HOSPITAL PER CENT.

Wards	Attacks	Deaths	Attack Rate per 1000 Living	† Case Fatality per cent.	Removals to Hospital per cent.
City	885	82	1·15	9·3	90·7
All Saints	23	1	1·00	4·3	100·0
Ardwick	45	3	1·74	6·7	97·8
Beswick	39	5	1·35	12·8	100·0
Blackley	42	6	2·05	14·3	97·6
Bradford	22	1	0·84	4·5	100·0
Cheetham	31	4	1·31	12·9	87·1
Chorlton-cum-Hardy ..	29	3	0·65	10·3	62·1
Collegiate Church ..	34	2	1·96	5·9	100·0
Collyhurst	50	2	2·07	4·0	86·0
Crumpsall	7	1	0·43	14·3	85·7
Didsbury	32	6	1·28	18·8	65·6
Exchange	—	—	—	—	—
Gorton North	20	4	0·88	20·0	95·0
Gorton South	38	9	1·33	23·7	94·7
Harpurhey	22	2	0·99	9·1	95·4
Levenshulme	6	—	0·29	—	33·3
Longsight	19	—	0·83	—	84·2
Medlock Street	24	1	0·85	4·2	91·7
Miles Platting	42	1	1·69	2·4	97·6
Moston... ..	25	5	1·04	20·0	80·0
Moss Side East	29	3	1·42	10·3	72·4
Moss Side West	31	—	1·49	—	87·1
New Cross	47	3	1·74	6·4	97·9
Newton Heath	25	1	1·22	4·0	100·0
Openshaw	33	2	1·40	6·1	96·9
Oxford	3	—	3·89	—	100·0
Rusholme	15	2	0·68	13·3	86·7
St. Ann's	—	—	—	—	—
St. Clement's	5	1	0·78	20·0	100·0
St. George's	45	1	1·68	2·2	97·8
St. John's	1	—	0·21	—	100·0
St. Luke's	20	4	0·72	20·0	100·0
St. Mark's	12	2	0·49	16·7	83·3
St. Michael's	18	3	0·92	16·7	100·0
Withington	44	4	0·93	9·1	84·1
Wythenshawe	7	—	1·00	—	85·7

† Corrected ; the fatal cases are those actually occurring amongst the cases notified.

TABLE V.
DIPHTHERIA MORTALITY, 1932.—RATE PER 1,000 LIVING COMPARED
WITH MEAN OF FIVE YEARS.

	1927	1928	1929	1930	1931	Mean	1932
England and Wales	0.07	0.06	0.08	0.09	0.07	0.08	0.06
118 Great Towns	0.08	0.09	0.09	0.10	0.08	0.09	0.07
London	0.09	0.09	0.08	0.10	0.06	0.09	0.07
Manchester City	0.12	0.13	0.07	0.07	0.08	0.10	0.11
126 Smaller Towns.....	0.05	0.08	0.07	0.07	0.05	0.06	0.03

*ENTERIC FEVER.

Forty-nine notifications of enteric fever were received in 1932, two of which were included in the records of 1931. In eight others the diagnosis was subsequently altered. Thirty-nine persons, therefore, contracted enteric fever during the year, 14 of whom were infected by *B. typhosus* and 24 by *B. paratyphosus* B. One infant was notified to be suffering from infection by *B. paratyphosus* C, but the diagnosis was not confirmed bacteriologically.

Source of Infection.

Cases were widespread, both in place and time. Five persons probably derived infection outside the City and two were directly infected from patients known to be suffering from the disease. The origin of the remainder could not be definitely determined. There was no evidence implicating polluted shellfish.

Mortality.

Two cases of typhoid and one of paratyphoid ended fatally, giving mortality rates among notified cases of 5.1 and 7.1 per cent. respectively.

Examination of Blood Specimens.

207 specimens of blood were submitted for examination in connection with the enteric group of diseases; 23 gave definite positive reactions. These figures include 58 specimens obtained from household contacts at the request of the Medical Officer of Health, 57 of which gave no reaction of significance. One, showing agglutination with *B. paratyphosus* B, led to the discovery of a chronic carrier of these organisms.

"Carriers."

One known "carrier," a woman aged 32 years, has been under observation and continues to excrete paratyphoid organisms. No spread of infection has been traced to her.

Table I. shows the attack and death-rates compared with those for England and Wales since 1909.

TABLE I.

INCIDENCE OF AND DEATH-RATE FROM ENTERIC FEVER IN MANCHESTER.

Number of Notified Cases, Deaths, and Death-rates per 1,000 living from Enteric Fever in each of Twenty-four successive Years.

YEAR	1909	1910	1911	1912	1913	1914	1915	1916	1917	1918	1919	1920
No. of cases notified and accepted ...	369	358	256	242	292	156	174	78	86	68	90	54
No. of deaths.	71	62	46	43	47	34	46	22	10	10	19	13
Death - rate — Manchester	0·13	0·09	0·07	0·06	0·06	0·05	0·06	0·03	0·01	0·01	0·02	0·02
Death - rate — England and Wales...	0·06	0·05	0·07	0·04	0·04	0·05	0·04	0·03	0·03	0·03	0·01	0·01

YEAR	1921	1922	1923	1924	1925	1926	1927	1928	1929	1930	1931	1932
No. of cases notified and accepted . .	74	36	50	103	65	30	18	32	41	30	22	39.
No. of deaths	12	4	8	14	8	9	1	4	7	4	4	3
Death-rate — Manchester	0·02	0·01	0·01	0·02	0·01	0·01	0·00	0·01	0·01	0·01	0·01	0·01
Death-rate — England and Wales..	0·02	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01

* Including typhoid and paratyphoid.

Table II. shows at what ages enteric fever appears to be most prevalent and also at what ages it is most fatal.

TABLE II.

ENTERIC FEVER.—NUMBER OF ATTACKS, OF DEATHS, AND CASE FATALITY PER CENT. AT DIFFERENT AGES FOR THE FORTY-TWO YEARS, 1891-1932.

Ages	1891-1932.		
	Attacks	Deaths	Case Fatality Per cent.
Under one year	20	9	45·0
1 to 2 years	58	8	13·8
2 „ 3 „	122	17	13·9
3 „ 4 „	175	22	12·6
4 „ 5 „	231	25	10·8
5 „ 6 „	264	28	10·6
6 „ 7 „	266	26	9·8
7 „ 8 „	246	20	8·1
8 „ 9 „	263	22	8·4
9 „ 10 „	261	26	10·0
10 „ 15 „	1502	162	10·8
15 „ 20 „	1639	296	18·0
20 „ 25 „	1594	312	19·6
25 „ 35 „	2357	541	23·0
35 „ 45 „	1154	336	29·1
45 and over	810	270	33·3
All ages	10962	2120	19·3

TABLE III.

ENTERIC FEVER ATTACKS IN WEEKS REPORTED IN 1932, ACCORDING TO
DATE OF ONSET.

FIRST QUARTER		SECOND QUARTER		THIRD QUARTER		FOURTH QUARTER	
Week of Year	1932	Week of Year	1932	Week of Year	1932	Week of Year	1932
I	I	I4	I	27	I	40	I
2	—	I5	2	28	I	4I	—
3	I	I6	—	29	I	42	—
4	—	I7	—	30	—	43	—
5	—	I8	—	3I	—	44	—
6	2	I9	2	32	—	45	—
7	—	20	2	33	2	46	—
8	I	2I	—	34	2	47	—
9	I	22	I	35	2	48	—
IO	—	23	—	36	2	49	I
II	2	24	—	37	I	50	—
I2	—	25	4	38	2	5I	—
I3	—	26	2	39	I	52	—
						53	—
Total..	8	Total ..	I4	Total ..	I5	Total ..	2

City total, 1932—39.

TABLE IV.

ENTERIC FEVER MORTALITY, 1932—RATE PER 1,000 LIVING, COMPARED
WITH MEAN OF FIVE YEARS.

	1927	1928	1929	1930	193I	Mean	1932
England and Wales	0.0I	0.0I	0.0I	0.0I	0.0I	0.0I	0.0I
London	0.0I	0.0I	0.0I	0.0I	0.0I	0.0I	0.00
CITY OF MANCHESTER ..	0.00	0.0I	0.0I	0.0I	0.0I	0.0I	0.0I

UNDULANT FEVER.

All blood specimens submitted to the Public Health Laboratory were examined for agglutination with Br. Abortus, the organism responsible for the occurrence of undulant fever in man.

Five positive results were obtained in the case of three men aged 48, 43, and 32 years, and of two women aged 48 and 33 years respectively. The blood in all these instances showed agglutination with Br. Abortus at high titres, and in each case the course of the illness was prolonged and wholly compatible with a diagnosis of undulant fever. An endeavour to isolate the organism from the blood was unsuccessfully made in two cases.

The occupation of those affected was not such as to render them specially liable to contract this infection, and although the milk supplies were investigated no definite evidence of the source of infection was ascertained.

CEREBRO-SPINAL FEVER.

Twenty-seven cases of cerebro-spinal fever were notified in 1932, of which 18 proved fatal. The diagnosis was confirmed in each case by the presence of the meningococcus in the cerebro-spinal fluid. The sex and age of those affected and the dates of onset of illness were as follows :—

Sex	Age	Onset	Sex	Age	Onset
F	24	January 1st	M	$1\frac{1}{2}$	May 15th
M	$1\frac{1}{2}$	February 8th	F	5	May 24th
F	23	January 29th	F	2	June 8th
F	$\frac{4}{12}$	January 31st	M	$1\frac{5}{12}$	June 30th
F	$2\frac{7}{12}$	January 24th	M	$\frac{5}{12}$	June 18th
M	9	March 3rd	F	12	July 21st
M	$\frac{6}{12}$	?	M	17	July 28th
M	$\frac{7}{12}$	?	M	37	?
M	9	March 6th	F	7	August 30th
M	25	March 28th	F	2	August 26th
M	6	April 2nd	F	12	September 11th
F	$\frac{7}{12}$	?	F	9	October 1st
M	$1\frac{1}{12}$	April 18th	M	17	December 2nd
M	45	May 13th			

POLIOMYELITIS.

Particulars of notified cases of poliomyelitis for 1932 are given in the following table :—

Case	Sex	Age	Ward	Onset	Notified	Paralysis	Result—Jan., 1933
1	M	1 $\frac{9}{12}$	Collegiate ..	?	Jan. 21	?	Died, Dec. 31st, 1931
2	F	2	Miles Platting	Feb. 24	March 3	Leg and thigh	Recovered
3	F	7	Moss Side W.	July 16	July 25	Right leg	Recovered
4	M	2	St. Michael's	July 25	Aug. 10	Left foot	Recovered
5	M	1 $\frac{2}{12}$	Miles Platting	Aug. 7	Aug. 20	Left leg and foot	Recovered

ENCEPHALITIS LETHARGICA.

Thirteen notifications of acute encephalitis lethargica were received during 1932. The diagnosis in four instances was subsequently amended as follows :—Tubercular meningitis 2, myocarditis 1, debility 1.

In addition, 12 persons suffering from chronic encephalitis lethargica (10 of whom died during the year), were discovered, and these were not previously known to the department.

The total number of deaths from this disease registered in 1932 was 15. The mortality-rate among notified cases was 22.0 per cent., compared with 56.0 and 50.0 per cent. in 1930 and 1931 respectively.

The number of cases occurring annually continues to decline. The disease is not now epidemic. Nevertheless there still remain a large number of persons in the City who are permanently crippled from past attacks.

Table III. shows the number of notifications in each year since 1918, the number of deaths among notified cases, the number of survivors who are wholly or partially disabled, the number of persons who have apparently recovered, and the number who are untraceable.

From the table it may be calculated that during the last 14 years 726 persons were notified and accepted as sufferers from encephalitis lethargica, 320, or 44 per cent., have died ; 102, or 14 per cent., have apparently completely recovered ; 37, or 5 per cent., are untraceable ; and 267, or 37 per cent., remain alive, but are totally or partially disabled.

Institution accommodation for chronic sufferers is provided at Swinton Home for Children and at one or other of the municipal hospitals for adults.

TABLE I.
ENCEPHALITIS LETHARGICA.—ATTACKS IN AGE GROUPS,
MANCHESTER, 1932.

Years	0-5	5-10	10-20	20-30	30-40	40-50	50 and over	All ages
Males	—	1	1	1	—	—	1	4
Females	—	—	1	—	2	1	1	5
Total	—	1	2	1	2	1	2	9

TABLE II.
ENCEPHALITIS LETHARGICA.—INCIDENCE AND MORTALITY RATES IN
AGE GROUPS.
621 CASES, 1924-1932.

Age Group	Number of Cases	Number of Deaths		Total Deaths	Mortality Rate (per cent.)
		Within one year of onset	A year or more after onset		
0— 5 years	29	21	—	21	72·4
5—10 „	59	15	6	21	35·6
10—15 „	65	12	3	15	23·1
15—20 „	96	21	9	30	31·2
20—35 „	158	24	19	43	27·2
35—45 „	94	28	14	42	44·7
45—65 „	100	42	26	68	68·0
65 and over	20	11	5	16	80·0
Total ..	621	174	82	256	41·2

(1) Patients under the age of 16 at time of notification.

Year	No. of cases notified	A No. known to be alive and apparently well, Jan., 1929	B No. suffering from sequelæ		No. (among B) in whom changes of character have occurred	No. (among B) in whom "Parkinsonism" has supervened	C No. of patients known to have died				D No. of patients untraced or unvisited
			Interfering with schooling or other occupation	Preventing normal schooling or normal occupation			0-1 months after onset	2-6 months after onset	7-12 months after onset	Over 1 year after onset	
1919	10	1	—	—	—	—	6	3	—	—	—
1920	7	—	2	1	1	2	4	—	—	—	—
1921	9	3	2	—	1	—	4	—	—	—	—
1922	3	1	—	1	—	1	—	—	1	—	—
1923	12	2	3	—	2	2	3	—	—	4	—
1924	97	19	24	25	13	19	16	3	—	10	—
1925	19	5	4	2	1	3	5	1	—	2	—
1926	19	4	2	—	2	—	9	1	—	1	2
1927	15	2	2	1	1	—	3	2	—	2	—
1928	7	3	—	1	1	—	2	—	—	—	1
1929	9	4	1	—	1	—	4	—	—	—	—
1930	2	—	—	—	—	—	2	—	—	—	—
1931	3	—	—	—	—	—	—	—	1	—	—
1932	3	—	—	2	—	—	—	—	—	—	—
				3	—	—	—	—	—	—	—

(2) Patients over the age of 16 at the time of notification.

Year	No. of cases notified	A No. known to be alive and apparently well, Jan., 1929	B No. suffering from sequelæ		No. (among B) in whom changes of character have occurred	No. (among B) in whom "Parkinsonism" has supervened	C No. of patients known to have died				D No. of patients untraced or unvisited
			Interfering with schooling or other occupation	Preventing normal schooling or normal occupation			0-1 months after onset	2-6 months after onset	7-12 months after onset	Over 1 year after onset	
1919	—	—	—	—	—	—	—	—	—	—	—
1920	12	—	2	1	—	3	5	3	—	1	—
1921	22	4	5	3	2	4	6	3	—	—	—
1922	6	1	1	—	—	1	—	—	2	1	—
1923	24	4	4	—	2	3	9	4	—	2	—
1924	147	30	21	31	2	22	18	14	3	17	13
1925	59	6	7	15	2	13	7	7	2	14	1
1926	72	2	8	30	1	21	10	2	1	12	7
1927	50	2	8	11	—	11	10	2	1	10	6
1928	43	6	7	7	—	3	6	6	2	9	—
1929	28	3	5	1	—	3	5	1	1	9	3
1930	21	—	—	9	—	—	2	3	1	6	—
1931	21	—	—	5	—	4	5	2	1	3	—
1932	6	—	—	4	—	—	2	—	—	—	—

BACTERIOLOGICAL EXAMINATIONS MADE FOR THE COUNTY BOROUGH OF MANCHESTER DURING THE YEAR 1932, PUBLIC HEALTH LABORATORY, UNIVERSITY OF MANCHESTER.

Month	Diphtheria		Typhoid	Tuberculosis				Water	
				Sputum		Milk		Bacterio- logical	Chemical
	Total	+	Total	Total	+	Total	+	Total	Total
January	598	58	14	230	28	122	22	—	—
February	610	77	25	263	34	144	10	—	—
March	1103	86	9	278	39	103	11	4	4
April.. .. .	657	66	14	232	65	130	15	—	—
May	595	47	26	266	39	102	9	—	—
June	556	59	19	194	37	124	7	3	3
July	749	81	22	132	11	89	8	—	—
August	451	61	19	142	32	120	20	—	—
September	1264	161	24	141	25	106	10	11	11
October	968	95	21	159	19	114	14	—	—
November	902	106	5	149	20	113	15	—	—
December	763	60	11	123	16	88	11	5	5
Total	9216	957	209	2409	365	1355	152	23	23

Total specimens enumerated above—13,235. Other investigations 955, as under:—

Milks—Coli, etc.	450
Chemical examinations	118
Diphtheria, virulence tests	269
Swabs, microscopical examinations	6
Swabs, cultivation, hæmolytic streptococci, etc.	38
Fluids, etc., for tubercle bacilli	17
Urine and fæces, for typhoid group	49
Cerebro-spinal fluid	4
Foods, for food poisoning, etc.	3
Maternity outfit	1
	<hr/>
	955

MEASLES AND GERMAN MEASLES.

Cases Notified	1932				
	1st quarter	2nd quarter	3rd quarter	4th quarter	Total
MEASLES—					
By Doctors	6,341	2,143	307	133	8,924
„ Others	2,121	1,042	120	31	3,314
Total	8462	3,185	427	164	12,238
GERMAN MEASLES—					
By Doctors	438	779	179	44	1,440
„ Others	72	129	40	6	247
Total	510	908	219	50	1,687

The deaths from measles in successive years are shown in the following table :—

TABLE I.
DEATHS FROM MEASLES IN THE CITY OF MANCHESTER DURING THE
TEN YEARS 1923-1932.

Under One Year				Years of Age				5 Years and upwards	Total deaths at all ages
Years	Under 3 Months	3-5 Months	6-11 Months	1-	2-	3-	4-		
1923	0	2	12	46	15	3	2	3	83
1924	2	5	63	168	62	25	28	17	370
1925	2	0	25	46	24	17	9	6	129
1926	1	2	29	80	26	9	4	5	156
1927	1	5	39	65	23	14	9	8	164
1928	1	5	41	43	22	4	5	2	123
1929	0	1	17	28	4	6	2	2	60
1930	1	6	32	61	20	13	6	7	146
1931	2	5	4	28	11	8	2	5	65
1932	0	2	24	55	14	11	5	11	122

TABLE 2.

INCIDENCE OF MEASLES IN MANCHESTER DURING THE YEAR 1932
ACCORDING TO AGE GROUPS.

Disease	Under 5 years	5 years and over	Total
Measles	7,496	4,742	12,238

TABLE 3.—MEASLES, DEATHS IN QUARTERS.

YEAR	1st Quarter	2nd Quarter	3rd Quarter	4th Quarter	Whole Year
1901-1910 (mean) ..	80	122	68	59	329
1911-1920 (mean) ..	87	125	33	32	277
1921-1930 (mean) ..	51	62	26	30	159
1921	1	2	0	2	5
1922	1	162	161	30	354
1923	13	42	21	7	83
1924	39	295	34	2	370
1925	17	27	8	77	129
1926	117	36	1	2	156
1927	3	2	11	148	164
1928	101	17	5	0	123
1929	4	7	19	30	60
1930	111	27	5	3	146
1931	3	9	3	50	65
1932	89	30	1	2	122

TABLE 4.—MEASLES MORTALITY RATES.—RATE PER 1,000 LIVING,
COMPARED WITH MEAN OF FIVE YEARS.

	1927	1928	1929	1930	1931	Mean 5 years	1932
England and Wales	0·09	0·11	0·08	0·10	0·06	0·09	0·08
118 Great Towns	0·12	0·15	0·12	0·15	0·07	0·12	0·11
London	0·04	0·30	0·04	0·23	0·07	0·14	0·19
CITY OF MANCHESTER . . .	0·21	0·16	0·08	0·23	0·08	0·15	0·16
126 Smaller Towns	0·07	0·08	0·06	0·08	0·05	0·07	0·06

WHOOPING COUGH.

The cases of this disease notified are obtained entirely through the schools, and the same disabilities attach to this mode of notification as were experienced in measles. Notwithstanding, these notifications are useful. The cases are visited and dealt with by the Health Visitors in the same manner as cases of measles.

Whooping cough notifications during 1932 :—

	First quarter	Second quarter	Third quarter	Fourth quarter	Total
1932	942	659	399	280	2,280

TABLE I.

WHOOPING COUGH MORTALITY.—RATE PER 1,000 LIVING, COMPARED
WITH MEAN OF FIVE YEARS.

	1927	1928	1929	1930	1931	Mean 5 years	1932
England and Wales	0·09	0·07	0·15	0·05	0·06	0·09	0·07
118 Great Towns	0·10	0·09	0·19	0·05	0·07	0·10	0·08
London	0·12	0·09	0·26	0·03	0·07	0·11	0·08
CITY OF MANCHESTER	0·16	0·12	0·29	0·05	0·11	0·15	0·10
126 Smaller Towns	0·08	0·06	0·15	0·05	0·05	0·08	0·06

TABLE 2.—WHOOPING COUGH, DEATHS IN QUARTERS.

Year	1st Quarter	2nd Quarter	3rd Quarter	4th Quarter	Whole Year
1911-1920 (Mean) ..	59	73	24	17	173
1921-1930 (Mean) ..	48	52	15	15	130
1921	40	78	31	20	169
1922	24	37	25	13	99
1923	48	113	12	11	184
1924	26	53	10	27	116
1925	89	81	23	13	206
1926	16	18	15	12	61
1927	72	35	9	8	124
1928	14	24	16	35	89
1929	142	61	9	8	220
1930	11	15	4	7	37
1931	31	15	18	22	86
1932	39	27	7	7	80

TABLE 3.

INCIDENCE OF WHOOPING COUGH (KNOWN CASES) IN MANCHESTER DURING
THE YEAR 1932, ACCORDING TO AGE GROUPS.

Disease	Under 5 years	5 years and over	Total
Whooping Cough	1,651	629	2,280

A COMPARISON OF MORTALITY FROM SCARLET FEVER, DIPHTHERIA, MEASLES, AND WHOOPING COUGH.

The subjoined table shows that, as causes of death, either measles or whooping cough greatly exceed scarlet fever and diphtheria together.

YEAR	WHOOPING COUGH		MEASLES		SCARLET FEVER		DIPHTHERIA	
	Known Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths
1923	3,804	184	3,482	84	1,920	31	564	47
1924	1,706	116	18,349	370	1,784	33	570	53
1925	3,333	206	7,941	129	2,869	63	1,040	91
1926	2,094	61	10,953	156	2,259	25	1,145	103
1927	2,244	124	13,987	164	1,823	20	1,208	91
1928	3,189	89	7,141	123	2,100	14	1,033	99
1929	4,037	220	9,512	60	2,318	11	761	57
1930	1,388	37	10,738	146	3,701	16	838	58
1931	3,150	86	7,771	65	2,913	8	573	60
1932	2,280	80	12,238	122	2,283	17	885	82
Total	27,225*	1,203	102,112	1,419	23,970	238	8,617	741
Manchester— Case fatality rate per cent.	4.4		1.4		1.0		8.6	

* It should be pointed out that the estimated number of cases (27,225) occurring during the 10 years does not represent all the actual cases. Since this disease is not notifiable by medical practitioners, many cases escape our notice.

DIARRHŒA.

TABLE 1.—1932.—DIARRHŒA AND SIMPLE CHOLERA MORTALITY:
DEATHS UNDER TWO YEARS OF AGE PER 1,000 BIRTHS,
COMPARED WITH THE MEAN OF FIVE YEARS.

	1927	1928	1929	1930	1931	Mean 5 years	1932
England and Wales.....	6·3	7·0	8·1	6·0	6·0	6·7	6·6
118 Great Towns	8·3	9·6	10·9	8·3	8·4	9·1	8·9
London	7·5	10·2	10·7	9·9	9·7	9·6	12·6
CITY OF MANCHESTER	11·5	15·3	13·7	11·5	12·0	12·8	8·6
126 Smaller Towns.....	5·0	4·8	5·9	4·4	4·0	4·8	4·5

The number of deaths in successive years, and their distribution in quarters of the year, are exhibited in the following figures :—

TABLE 2.—DIARRHŒA AND SIMPLE CHOLERA DEATHS IN QUARTERS,
1923-1932.

	1923	1924	1925	1926	1927	1928	1929	1930	1931	1932
First Quarter....	53	51	40	41	32	44	38	46	55	32
Second Quarter..	45	51	38	43	34	48	45	39	34	33
Third Quarter ..	40	46	93	60	49	42	38	26	28	27
Fourth Quarter..	64	63	56	93	36	64	58	42	31	24
	202	211	227	237	151	198	179	153	148	116

TABLE 3.

Third Quarter of the years	Mean Temperature	Rainfall, Inches	Humidity, per cent.	Diarrhoea and Simple Cholera Mortality. Annual Rate (third quarter) per 1,000 living
1891-1900 Mean	59° 2	9·9	76 %	4·04
1901-1910 Mean	59°·1	8·5	77 %	2·81
1911-1920 Mean	59°·4	9·6	78 %	1·32
1921-1930 Mean	60°·0	11·6	78 %	0·27
1926	61°·8	9·9	76 %	0·31
1927	59°·2	14·7	80 %	0·26
1928	59°·2	8·1	75 %	0·26
1929	61°·1	9·9	78 %	0·18
1930	59°·9	13·0	80 %	0·13
1931	58°·2	15·5	79 %	0·15
1932	60°·5	9·0	79 %	0·15

PNEUMONIA.

During 1932 the following notifications were received in respect of pneumonia :—

Primary pneumonia	{	Lobar	1,098	
		Lobular	928	
		Unclassified	21	
			—————	2,047
Influenzal pneumonia	.. .. .	.. .. .	.. .. .	321
Secondary pneumonia	.. .. .	.. .. .	.. .. .	163
			—————	2,531

The total for the preceding year was 2,617.

In addition to the above, however, 468 deaths from pneumonia—408 primary, 50 influenzal, and 10 secondary—all being un-notified cases, were brought to our notice through the death returns; thus the total number of known pneumonia cases for the year was 2,999, as compared with 3,093 for the previous year.

PRIMARY PNEUMONIA.

Of the 2,455 known cases of primary pneumonia 1,198 were classified as lobar pneumonia, 1,229 as lobular pneumonia, and 28 simply as pneumonia. The number of cases which were investigated was 2,370, and of these the case-fatality was 27·6 per cent. for lobar pneumonia, 45·1 per cent. for lobular pneumonia, and 53·8 per cent. for the unclassified cases.

INFLUENZAL PNEUMONIA.

Of the 371 cases of influenzal pneumonia which came to our notice, 367 cases were fully investigated.

The case-fatality was 31·33 per cent.

The distribution according to sex of these investigated cases of influenzal pneumonia, is as follows:—

	<i>Males.</i>	<i>Females.</i>	<i>Totals.</i>
Cases	184	183	367
Deaths	59	56	115

SECONDARY PNEUMONIA.

172 cases of secondary pneumonia were investigated during the year, and were associated with the following diseases:—

Measles	89 cases.
Whooping cough	61 „
Measles and whooping cough	8 „
Other diseases	14 „
Total	<u>172 cases.</u>

The case-fatality was 32·5 per cent.

With 36 exceptions the cases occurred among children under five years of age.

Cases of secondary pneumonia are *not* notifiable under the Pneumonia, Malaria, and Dysentery Regulations of 1918.

The health visitors paid 7,010 visits in connection with cases suffering from all forms of pneumonia.

Investigation was attempted in each notified case, but in 90 instances it was difficult to obtain any definite information. These cases were therefore written off as “uninvestigated.”

1,385 cases were transferred to hospital, and of those nursed at home 309 were attended by a nurse supplied by the District Nursing Association.

Assistance in the form of milk was allowed in 75 necessitous cases, the total amount of milk granted being 1,092 pints.

INFLUENZA.

Influenza is not notifiable, but 309 cases came to the notice of this department through various channels.

The case-fatality rate was 18·7 per cent. 598 visits were paid by the health visitors in connection with the 303 cases investigated.

The distribution according to sex of the 303 cases investigated is as follows :—

	<i>Males.</i>	<i>Females.</i>	<i>Totals.</i>
Cases	138	165	303
Deaths	30	28	58

In order, however, to obtain a true picture of the incidence of influenza in the City during 1932, it is necessary to add to these figures those cases which, commencing as influenza but as yet unknown to the department, later developed into influenzal pneumonia, and were then notified as such. Of these there were 371, which reveals a total of 680 known cases of influenza for the year.

Of these total cases 288, or 42·3 per cent., occurred in the first two months, and there was a later rise to 299 cases during the month of December.

The distribution according to sex on these total figures in the investigated cases is therefore :—

	<i>Males.</i>	<i>Females.</i>	<i>Totals.</i>
Cases	322	348	670
Deaths	89	84	173

TABLE SHOWING THE NUMBER OF PRIMARY, INFLUENZAL, AND SECONDARY PNEUMONIA CASES WHICH HAVE COME TO THE KNOWLEDGE OF THIS SECTION OF THE PUBLIC HEALTH DEPARTMENT DURING 1932.

THE TABLE ALSO SHOWS THE NUMBER OF NOTIFIED CASES, THE NUMBER OF CASES FULLY INVESTIGATED, AND THE TOTAL NUMBER OF KNOWN CASES.

	Notified Cases	Cases fully investigated	Cases not fully investigated	Total known Cases of Primary, Influenzal, and Secondary Pneumonia occurring in 1932
(a) <i>Primary Pneumonia</i> —				
1. Number of primary pneumonia cases notified and fully investigated	1,987	1,987		2,455 (Primary)
2. Number of primary pneumonia cases notified and not fully investigated	60	383	60 } 25 }	
3. Number of primary pneumonia deaths not previously notified but fully investigated ..				
4. Number of primary pneumonia deaths not previously notified and not fully investigated				
(b) <i>Influenzal Pneumonia</i> —				
1. Number of influenzal pneumonia cases notified and fully investigated	318	318		371 (Influenzal)
2. Number of influenzal pneumonia cases notified and not fully investigated	3	49	3 } 1 }	
3. Number of influenzal pneumonia deaths not previously notified but fully investigated ..				
4. Number of influenzal pneumonia deaths not previously notified and not fully investigated				
(c) <i>Secondary Pneumonia</i> —				
1. Number of secondary pneumonia cases notified and fully investigated	162	162		173 (Secondary)
2. Number of secondary pneumonia cases notified and not fully investigated	1	10	1 } .. }	
3. Number of secondary pneumonia deaths not previously notified but fully investigated ..				
4. Number of secondary pneumonia deaths not previously notified and not fully investigated				
TOTALS	2,531	2,909	90	2,999

DYSENTERY.

Two cases of bacillary dysentery came to the notice of the Health Department during the year. One patient died.

During the year the 11 cases of dysentery and 6 carriers which are known to the Department have been visited each six months. The investigation of the health of the members of the patients' families revealed no suspicious symptoms.

MALARIA.

One case of malaria was notified during 1932. The patient contracted it whilst living abroad.

ANTHRAX.

No cases of anthrax were notified during the year 1932.

FOOD POISONING.

Six cases of suspected food poisoning were brought to the notice of the department during the year. Investigation and bacteriological and chemical examinations in each case did not reveal the source of illness to be due to food poisoning.

PUBLIC HEALTH (MEAT) REGULATIONS, 1924.

These regulations, which came into force on May 1st, 1925, are administered by the Public Health Committee in so far as Part V., which relates to shops, stores, etc., is concerned. With a view to the equitable administration of the regulations, the co-operation of the interested trades was sought, and mutual agreement with the associations concerned was arrived at on the following points :—

Requirements.

1. Meat shall not be hung outside premises.
2. All meat which is displayed must be protected from the dust of the streets by glass windows.
3. Reasonable precautions must be taken to protect meat from flies.
4. The provision of a covered receptacle of suitable material for refuse and sweepings is imperative, and the receptacle must be kept clean.
5. Shops must be adequately ventilated.

Suggestions.

1. That means be adopted for keeping all prepared meats covered. (Transparent paper could be used with good effects.)
2. That each shop be provided with a cold store or ice box for the storage of meat.
3. Persons engaged in the sale or handling of meat should wear white overalls. (Coloured ones now in use when worn out to be replaced by white.)
4. That notices be exhibited in shops to the effect that foodstuffs should not be handled by customers.
5. That, wherever possible, vertical glass fronts be provided on counters to protect meat, etc., from contact with or handling by customers.
6. Particulars of structural arrangements required in premises where food is prepared may be obtained on application to the Medical Officer of Health.

These agreed conditions have greatly facilitated the administration of the Meat Regulations. This strikingly illustrates the value of conference between the Public Health Committee and accredited representatives of interested trades as a preliminary to administration of such regulations.

1,695 visits were paid during the year to meat shops by the special inspectors, and it was found that these requirements and suggestions were generally being carried out. In 3 cases a cautionary letter was necessary.

REPORT FROM MARKETS DEPARTMENT AS TO SUPERVISION OF MEAT AND OTHER FOODS.

The Medical Officer of Health is indebted to Mr. A. Chadwick, General Superintendent, for the following particulars relating to the operations of the Markets Department during the year ending 31st March, 1932.

At the City Abattoir and Wholesale Meat Market the business has considerably increased during the past 32 years, as is shown in Statement "A" attached.

The bulk of the meat, fish, fruit, etc., which is condemned is found to be unfit for food on arrival at the markets, railway stations, wholesale houses, etc., and by the system which operates of carrying out an efficient inspection at the centre of distribution, the risk of diseased meat, etc., being exposed in retail shops is lessened.

Statement " B " shows the total condemnations in the City, and Statement " C " the total weight of meat condemned at the City Abattoir.

Statement "A."

ANIMALS SLAUGHTERED AT CITY ABATTOIR DURING CERTAIN YEARS.

Year ending 31st March	Cattle	Sheep	Lambs	Calves	Pigs
1900	34,675	106,855	45,595	872	18,163
1910	38,389	193,855	57,553	2,179	10,486
1920	89,143	214,363	48,656	8,202	9,636
1921	44,278	116,407	46,004	6,432	12,747
1922	53,348	232,581	57,159	5,359	19,601
1923	65,138	222,875	97,087	5,631	17,897
1924	55,332	192,906	78,739	3,364	15,662
1925	60,171	252,382	80,474	3,667	19,168
1926	54,027	271,127	76,460	5,192	16,106
1927	55,054	275,571	94,173	5,401	13,623
1928	65,386	330,894	111,286	5,518	18,584
1929	68,510	308,361	134,489	5,343	18,803
1930	73,244	272,868	119,299	5,472	15,259
1931	64,354	240,219	106,091	5,246	14,945
1932	57,418	308,249	95,079	5,474	17,776

Statement " B."

TOTAL CONDEMNATION OF VARIOUS FOODSTUFFS DURING CERTAIN YEARS.

						1925	1926	1927	1928	1929	1930	1931	1932
						Tons	Tons	Tons	Tons	Tons	Tons	Tons	Tons
at	..	..	..	..	..	406 $\frac{1}{4}$	342	386 $\frac{1}{4}$	426	407 $\frac{3}{4}$	472 $\frac{1}{4}$	434 $\frac{1}{4}$	399 $\frac{1}{4}$
h	..	..	..	..	..	83 $\frac{1}{4}$	91 $\frac{1}{2}$	181 $\frac{1}{4}$	111 $\frac{1}{4}$	118 $\frac{1}{2}$	98 $\frac{1}{2}$	135	106 $\frac{3}{4}$
uit	..	..	..	..	..	85 $\frac{1}{4}$	74 $\frac{1}{4}$	72 $\frac{1}{2}$	31 $\frac{1}{2}$	28 $\frac{1}{2}$	20 $\frac{1}{2}$	49 $\frac{1}{2}$	42 $\frac{3}{4}$
getables	..	..	..	..	..	207	261 $\frac{1}{2}$	149	81 $\frac{3}{4}$	132 $\frac{3}{4}$	199 $\frac{1}{4}$	179 $\frac{1}{2}$	137 $\frac{3}{4}$
gs (number	..	..	..	..	..	95,368	14,739	2,595	15,781	786	1,150	..	4,149
ne (head)	..	..	..	..	..	3,350	1,342	1,789	2,089	1,097	645	338	122
ultry (head)	..	..	..	..	..	4,870	4,712	5,695	3,608	3,153	3,440	3,544	4,582
obits (head)	..	..	..	..	..	20,611	14,290	12,861	12,780	5,325	7,895	9,107	10,401

MEAT CONDEMNED AT THE CITY ABATTOIR AND WHOLESALE MEAT MARKET
DURING CERTAIN YEARS.

	1925	1926	1927	1928	1929	1930	1931	1932
	Tons	Tons	Tons	Tons	Tons	Tons	Tons	Tons
Total weight of meat condemned at the City Abattoir and Wholesale Meat Market	370½	311¼	353¼	399	379	451¾	403¾	368
Of which the weight of dressed meat consigned from places other than the City was ..	171¾	121¼	151½	136	142¾	167½	181¼	160
Included in which were Imported Offals amounting to	2¾	5¼	3½	5½	½	2½	2½	1

AMOUNT OF UNWHOLESOME FOOD CONDEMNED DURING THE YEAR ENDED
31ST MARCH, 1932.

	1930-31	1931-32
MEAT :—	lbs.	lbs.
Beef	822,426	729,870
Mutton	29,348	32,115
Veal	24,603	21,364
Venison	411	245
Pork	90,451	108,681
Imported Offal	5,415	2,095
	972,654 = 434¼ tons	894,370 = 399¼ tons
FISH :—		
Fish	270,647	204,542
Shellfish	31,765	34,890
	302,412 = 135 tons	239,432 = 106¾ tons

FOOD CONDEMNED DURING THE YEAR—*continued*

	1930-31	1931-32
	HEAD	HEAD
GAME	338	122
POULTRY	3,544	4,582
RABBITS	9,107	10,401
	LBS.	LBS.
FRUIT	110,646 = 49½ tons	95,657 = 42¾ tons
VEGETABLES	402,075 = 179½ tons	308,790 = 137¾ tons
MISCELLANEOUS :—	NO.	NO.
Eggs .. .. .	..	4,149
	LBS.	LBS.
Condensed Milk	356	401
Sundry Provisions	643½	279

With the exception of the following, which were seized while deposited or exposed for sale, the above quantities were surrendered after being condemned by the Inspectors of the Department :—

	1930-31	1931-32
	LBS.	LBS.
Meat	57	128
Fish .. .. .	..	11
Fruit	50	..
Condensed Milk .. .. .	..	184
Rabbits.. .. .	..	HEAD 2

NOTE.—The term “surrendered” includes cases in which the Inspectors have discovered the diseased meat, etc., in the course of their duty, but in which, owing to salesman’s acceptance of the Inspector’s decision, it has been deemed unnecessary to obtain a magistrate’s order prior to destruction.

VETERINARY AND MILK CONTROL SECTION.

By R. C. LOCKE, M.R.C.V.S., D.V.S.M. (Vict.),
Veterinary Officer.

The duties of the Veterinary and Milk Control Section are administered under the Milk and Dairies (Consolidation) Act, 1915, the Milk and Dairies (Amendment) Act, 1922, and Orders made thereunder, dealing with milk, and Section 18 of the Manchester Corporation (General Powers) Act, 1899, and Section 32 (1) (b) of the Manchester Corporation (General Powers) Act, 1930, relating to ice cream.

Details of the work carried out during the year are shown in tabular form in the appendix to this report.

Country Farms.

The percentage of tuberculous infection in milk received from farms situated outside the City boundary shows a slight reduction from the previous year's figure. Reference to Table III. will show the area covered by the samples taken during the year. Of 818 farms, the supplies from which were submitted to the biological test, 115 were proved to be infected with *b. tuberculosis*. The percentage is, therefore, 14.05 compared with 16.18 for 1931. Despite this decrease the figure still remains too high and is greater than the average for the past 30 years.

Arising from the inspections of the herds, 11 cows were condemned on clinical examination, 56 were discovered on microscopical examination of the milk, 33 were discovered on biological examination of the milk, and 41 cows were removed from farms prior to the visits of the veterinary officers.

A disturbing feature arises in connection with "factory" milk supplies, *i.e.*, the mixed milk from a number of farms which is sent to a depot and redistributed to milk dealers. A small number of dairymen in Manchester receive milk from such sources, and of six samples examined for the presence of tubercle bacilli during the year three gave a positive result. In each case it was ascertained that the milk was not treated in any way but was sold to the public in the raw state. Owing to the large number of farms from which milk was sent to the factory it was not possible to trace the offending animals. The dangers of this practice are obvious, and it is important to observe that there exists no means whereby the consumer can be protected against these dangers.

In view of the large amount of milk supplied to Manchester from dairy farms in Cheshire it is gratifying to record the recent decision of the Cheshire County Council to appoint five more whole-time veterinary officers in addition to the veterinary officer whose appointment was referred to in the Annual Report for 1931. An important part of their duties will be the regular examination of the herds within the County.

City Farms.

Four cows suffering from tuberculosis of the udder were detected during the year and were slaughtered under the provisions of the Tuberculosis Order, 1925. No other outstanding feature presents itself in connection with this aspect of the work of the section.

City Dairies and Milkshops.

During the year 5,204 visits to dairies and milkshops have been made by the Milkshops Inspectors. A high standard of cleanliness has been maintained.

The increase in the amount of milk sold in bottles continues in the retail trade with a corresponding decrease in the amount of loose milk sold.

The amount of raw milk sold under the Milk (Special Designations) Order, 1923, shows a slight increase (see Table V.), but the total amount is still insignificant. Generally speaking, the higher retail price of these milks, in addition to the confusion existing in the minds of the public as to the meaning of the definitions employed, accounts for the lack of demand.

801 samples of milk have been taken by the Milkshops Inspectors from various sources in the City, and a further 31 samples of "Certified" and "Grade A (Tuberculin Tested)" milks on behalf of the Ministry of Health.

The number of prosecutions instituted during the year shows an increase, but it should be pointed out that the majority of these proceedings were taken against distributors carrying on business from premises situated outside the City boundary. Particulars of these actions are given in Table IV. and in each case a conviction was obtained.

An appeal was lodged against the decision of the City Council to refuse to register certain premises for use as a dairy. The appeal was withdrawn on the appellant agreeing to comply with the requirements of the Department.

Ice Cream.

A substantial improvement in connection with the conditions under which ice cream is manufactured and sold has been effected during the year. Registration of all premises used for the manufacture for sale and/or sale of ice cream is now compulsory, and the standards specified have been largely modelled on those required for dairies and milkshops. Where used for manufacture two-roomed premises with impervious floors, dust-proof ceilings,

washable walls, suitable light and ventilation, etc., have been insisted upon. In the case of premises used for sale only similar conditions to those appertaining to milkshops have been accepted. Already there are 260 suitable premises registered under the Act (see Table VI.) and many more applications remain to be dealt with.

It was found necessary to institute 31 prosecutions against persons using unregistered premises for the manufacture for sale of ice cream. This action was deemed necessary as the persons concerned insisted on using the premises after refusal of registration by the City Council and despite numerous warnings. A conviction was obtained in each case.

Two appeals to the City Justices were made against the decision of the City Council to refuse registration. One was dismissed, whilst in the second case the premises were converted into a cafe, thus rendering them exempt from registration—an exemption allowed by the Act which hampers considerably this work of the section.

Distribution of Milk.

During the year special attention has been paid by the Milkshops Inspectors to the methods of retail distribution of milk in the City. Many unsatisfactory features have been reported and action has been taken to remedy them. These included roundsmen leaving churns open after measuring out milk and leaving measures exposed or in contact with the sides of the vehicle. The “open-can” method of distribution is still in use in the City, despite its many objectionable features, and the sooner it is completely discontinued the better. The same liability to contamination exists in the use of the public highway for transferring milk from one vehicle to another. The increase in this latter practice is due to the number of producers whose premises are situated outside Manchester who have recently started retailing milk “direct to consumer.” Many of these bring large quantities of milk from the farms and, having no premises within the City, measure out the milk to their roundsmen in the street. These producers must be registered with the City Council but, provided that the applicant is registered with his own Local Authority, no grounds exist on which to base a refusal. This influx of producer-retailers is due largely to disagreement between the producers and the distributors in the matter of contract prices, and the resultant undercutting cannot fail to have a detrimental effect on the producer and distributor alike and ultimately on the consumer. It is satisfactory to note that this point has not been overlooked by the Milk Reorganisation Commission.

The distribution of milk in bottles, whilst much superior to the open-can method, is not yet satisfactory in practice. The general method of closure of the bottle is open to objection, and carelessness in distribution has been reported from time to time. The carrying of bottles in close contact with the roundsman's clothing, the holding of the unprotected bottle neck with the hand, and the leaving of crates of bottles on the public footpath during the course of delivery are fairly common practices which the department is endeavouring to stop.

Manchester Corporation Hospitals' Milk Supply.

Pasteurised milk has again been supplied to the Crumpsall and Withington Institutions and Baguley Sanatorium, and the results obtained from the regular examination of samples of this milk have been satisfactory.

The supply of raw milk to Monsall Hospital and Rose Hill Convalescent Home has been good and the farm from which the milk is obtained has been regularly visited by the veterinary officer.

The milk from the Langho Colony farms, part of which is supplied to Booth Hall Institution, has been sampled regularly during the year and a high standard of purity has been maintained.

Further improvements have been made at the Abergele Sanatorium farm and the milk which has been supplied to the sanatorium has been consistently good throughout the year.

General.

The department organised a stall at the Health and Hygiene Exhibition held at the City Hall, Manchester, in March, demonstrating the activities of the Veterinary and Milk Control Section. Much interest was created during the exhibition and subsequent to it, and it had the effect of disseminating much useful information to the general public.

The staff of the section is composed of one veterinary officer, three milkshops inspectors, and two clerks.

APPENDIX.

TABLE I.

PARTICULARS OF VISITS TO FARMS.

<i>City Farms.</i>	
Total number of farms in City	74
Accommodation for 1,750 cows.	
Number of visits paid to farms by Veterinary Officer .. .	84
„ cowsheds inspected	195
„ cows examined	1,340
„ samples taken	19
„ cows suffering from tuberculosis of the udder.. .	4
<i>Country Farms.</i>	
Number of visits paid to farms by Veterinary Officer .. .	93
„ cowsheds inspected	246
„ cows examined	2,328
„ cows found with tuberculous udders	104
„ cows removed from farms prior to visits of Veterinary Officers	41

TABLE II.
PARTICULARS OF MILK SAMPLES.

<i>Samples Examined for Tubercle Bacilli.</i>										
Collected by Food and Drugs Inspectors at—										
(a)	Railway Stations	..	..	..	..	..	..	..	..	61
(b)	Vehicles entering the City by road	..	..	..	..	..	..	..	..	759
Collected by Milkshops Inspectors at—										
(a)	Hospitals and Institutions	..	..	..	..	..	..	..	..	26
(b)	City Dairies and Milkshops	..	..	..	..	..	..	..	..	251
(c)	Vehicles	..	..	..	..	..	..	..	..	212
(d)	Railway Stations	..	..	..	..	..	..	..	..	4
Number of samples taken at farms by Veterinary Officer..										19
<i>Samples Examined for Chemical Analysis, Bacterial Count, Bacillus Coli, etc.</i>										
Collected by Milkshops Inspectors at Hospitals, Dairies, Vehicles, etc.										*668
Collected by Milkshops Inspectors on behalf of the Ministry of Health										31

* Of these, 360 were also examined for Tubercle Bacilli.

TABLE III.
ANALYSIS OF FARMS TESTED FOR TUBERCLE BACILLI IN MILK
DURING THE YEAR 1932.

County	No. of Farmers represented by Samples of Milk	No. of Farmers sending Tuberculous Milk	Percentage
Cheshire	437	76	17.39
Lancashire	95	12	12.63
Derbyshire	141	12	8.51
Staffordshire	105	12	11.42
Shropshire	20	1	5.00
Westmorland	1	..	..
Cumberland.. .. .	2	..	..
Montgomeryshire	5	1	20.00
Yorkshire	12	1	8.33
Totals	818	115	14.05

TABLE IV.

THE MILK AND DAIRIES (CONSOLIDATION) ACT, 1915,

THE MILK AND DAIRIES (AMENDMENT) ACT, 1922, AND ORDERS.

Number of registered premises—December 31st, 1932	1,041
„ visits to dairies and milkshops by Milkshops Inspectors ..	5,204
„ applications for registration approved	65
„ applications for registration refused	50
„ persons removed from register by resolution of City Council	3
„ milk vessels found uncovered	24
„ milk vessels found dirty	17
„ milkshops found dirty.. .. .	42
„ premises found in disrepair	11
„ premises with unsatisfactory washing accommodation..	15
„ milk conveyances found dirty	16
„ milk conveyances without name and address	21
„ milk purveyors found bottling milk in street	1
„ sites inspected for new dairies	30
„ persons warned for opening bottled milk	16
„ prosecutions taken in respect of bottling milk in street	1
„ prosecutions taken in respect of persons selling milk not being registered for such purpose	7
„ prosecutions in respect of the use of unregistered premises	3
„ prosecutions taken in respect of using vehicle without name and address on same	4
„ prosecutions in respect of not taking precautions to prevent contamination of milk.. .. .	7
„ prosecutions in respect of not washing utensils as soon as may be after use	1

TABLE V.
MILK (SPECIAL DESIGNATIONS) ORDER, 1923.
Licences issued during the year 1932.

Producer's licence to use the designation "Grade A"	1
Dealer's licence to use the designation "Certified"	15
Dealer's licence to use the designation "Grade A (Tuberculin Tested)"	14
Dealer's licence to use the designation "Grade A"	6
Dealer's licence to use the designation "Pasteurised" :—	
(a) Pasteurising establishments	16
(b) Shops	2
Supplementary licence to use the designation "Certified"	1
Supplementary licence to use the designation "Grade A"	3
Supplementary licence to use the designation "Pasteurised"	2

TABLE VI.
ICE CREAM.

Number of registered premises, 31st December, 1932—	
<i>Purpose.</i>	
Manufacture for sale	22
Sale	197
Manufacture for sale and sale	41
	260
Number of visits to ice cream premises by Milkshops Inspectors..	2,174
„ applications for registration approved	142
„ applications for registration refused	57
„ sites for new premises inspected	50
„ persons warned for using dirty utensils	57
„ „ „ leaving ice cream mixture uncovered	39
„ „ „ having dirty clothing	7
„ „ „ using dirty premises	23
„ „ prosecuted in respect of the use of unregistered premises	31

TABLE VIII.
ANALYSIS OF SAMPLES OF MILK TESTED AND RESULTS OF INVESTIGATIONS AT FARMS DURING THE YEAR 1932.

SOURCE OF SAMPLES		NUMBER OF SAMPLES EXAMINED FOR TUBERCLE BACILLI			Number of visits paid to Farms	Number of Cows Examined	COWS WITH TUBERCULOUS UDDERS			
		Primary and Subsequent	Control	Total	Positive Results		Condemned on Clinical Examination	Discovered on Microscopical Examination of Milk	Discovered on Biological Examination of Milk	Removed from Farm prior to visit
By Food and Drug Inspectors	Railway Stations	53	8	61	*6	..	..	..	..	..
	Carts and City Dairies . .	673	86	759	†103	..	..	..	..	..
By Milkshops Inspectors	Hospitals and Institutions..	26	..	26	1	..	..	..	..	..
	Carts, City Farms, City Dairies, and Railway Stations	444	23	467	§29	..	..	..	..	..
By Veterinary Officer	Country Farms { Individual { Group . .	..	..	..	..	93	11	56	33	4†
	City Farms { Individual { Group . .	11	..	11	4		..	..	4	..
	Totals	1,215	117	1,332	146	177	11	56	37	4†

* Includes 3 control samples.
† Includes 13 control samples.
§ Includes 2 control samples.

TUBERCULOSIS.

The year under review has seen the completion of two very important sections of the Manchester scheme for dealing with Tuberculosis, namely, the establishment of the Tuberculosis Office and Clinic at Oxford Road and the full development of the new Children's Sanatorium at Abergele.

Tuberculosis Office.

The situation of the new Tuberculosis Office is in the actual hospital zone of the City of Manchester, being immediately opposite the Manchester Royal Infirmary. Its advantages from the point of view of clinical teaching are obvious, and it forms a centre for the whole of the preventive and remedial measures comprised in the Manchester scheme for dealing with tuberculosis. Its accessibility is far greater than was that of the former situation where the work was carried on, and the actual distance that the majority of the patients have to come is shortened. This makes for additional convenience to the patients and reduces the expense they have to incur in travelling. That these additional facilities are appreciated we have ample proof from the patients themselves and in the number of attendances.

The building itself consists of a set of offices, nurses' and inspectors' rooms, etc., and a clinical department. The former are two-storied buildings facing the two main roads of Oxford Road and Denmark Road, at the corner of which the institution is situated. Behind these and round the other sides of an open space are placed the waiting hall for patients and a series of five consulting rooms for the medical staff. Each of these consulting rooms is designed to admit the maximum amount of light and air, whilst at the same time the very necessary element of silence is secured both by the protective design of the building and by special sound-absorbing material lining all the internal walls. In addition to these rooms there is a laboratory, a room for artificial light therapy, dispensary, etc.

Its organisation in respect of the public health work provides for the registration of all the notified cases in the City of Manchester. It sets on foot the enquiries and investigation of all cases, both in respect of their medical and also their environmental and social conditions. It provides for the instruction and education of patients in regard to their own health and in the prevention of infection to others. It carries out all the care and after-care work and keeps complete records for statistical and epidemiological investigation. Upon the clinical side it provides a centre for diagnosis and treatment. Cases are classified and allocated to the appropriate form of treatment—Sanatorium, hospital, or other, as the type of disease requires. The closest co-ordination

exists between the centre and the various institutions providing residential treatment, and during the course of their stay the patients' progress is reported upon by the Medical Superintendents, who send periodical records to the Senior Tuberculosis Officer. Upon the termination of institutional care cases are once more referred to the clinic for examination before having recommendations made for further home or dispensary supervision.

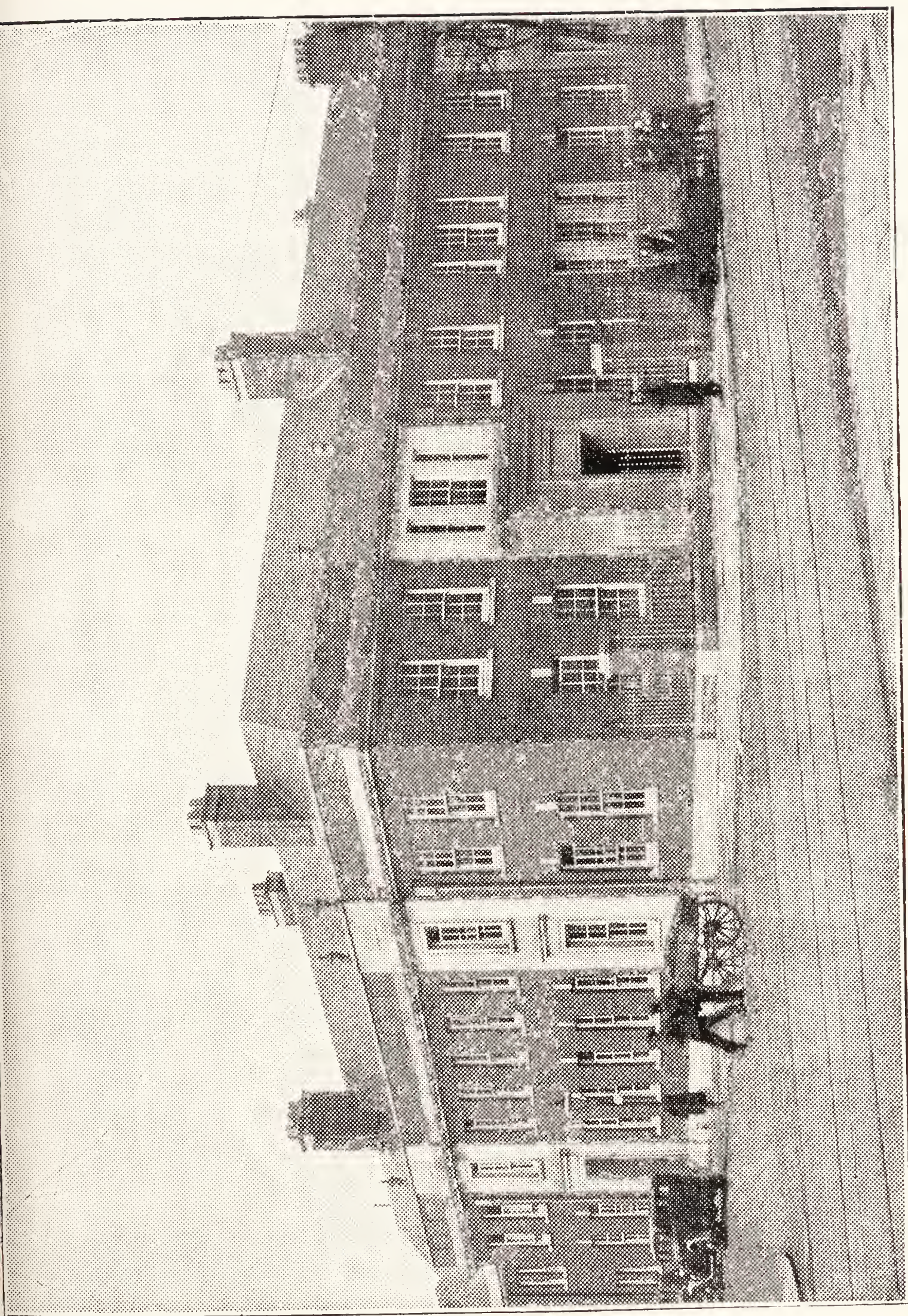
An important detail of the administration, which is now capable of full development, is the arranging of the patients' appointments for fixed hours. This applies to all the clinical sessions which are held both in the morning and in the afternoon. It results in an immense saving of the waiting period for patients and at the same time avoids that overcrowding of the waiting hall which is so undesirable.

Abergele Sanatorium for Children.

This sanatorium, to which reference has already been made in previous annual reports, was completed and opened in June, 1931. By the end of 1932 it had its full complement of patients and staff, and was thus able to take its place as a fully functioning unit in the scheme for dealing with tuberculosis amongst children. It makes provision for treating cases of both pulmonary and non-pulmonary tuberculosis under excellent climatic conditions, and it is equipped with every requirement for the most up-to-date management of every type of case. Our past experience in dealing with a limited number of children suffering from surgical tuberculosis at Abergele has given conclusive evidence of the benefits that can be secured, and the great extension now available will make definite progress in this respect certain. Further details of the actual work done will be found elsewhere in this report.

The death rate for the year from tuberculosis is again lower for all forms of the disease. The rate for pulmonary tuberculosis is 1.00 per 1,000 for males and females, and that for surgical tuberculosis .16. In regard to the former the rate for males has declined from 1.43 in 1931 to 1.23. The female rate has dropped from .82 to .79.

Although the relative decline is greater in the case of the men than amongst the women, it should be recalled that in 1931 the general drop in the rate was not reflected in the case of males. In that year there was actually a very slight increase in their mortality and consequently the present diminution appears to be disproportionately great. This is only seen when the consecutive yearly figures are considered alone. When the complete series of, say, 10 years is taken into account we find that the steady improvement is continuous.



Reproduced by kind permission of the Editor, Manchester Guardian.
NEW TUBERCULOSIS CLINIC AND OFFICES, OXFORD ROAD.

PULMONARY TUBERCULOSIS.

With the exception of the age group 1 to 4, where there is an increase in deaths, all age groups in the males show the diminished mortality.

In the females there is the same phenomenon at the 1 to 4 age group. To a very much smaller degree (one that is, in fact, insignificant) we see also an irregular increase in deaths at some of the later ages. On this matter of female mortality much has been said and written lately in regard to the heavy toll taken by pulmonary tuberculosis amongst unmarried females at the ages 15 to 24, between which ages it has been stated the death rates have not fallen proportionately. We have taken out statistics in regard to these based upon the census returns of 1921 and 1931.

The following tables represents the position here :—

	1921	1931
Total females population—All ages	392,486	405,264
Total female deaths from pulmonary tuberculosis	396	336
Giving a death rate of	101 per ten thousand	82 per ten thousand

This shows a decrease in mortality of 19 per cent. in the ten years.

If we confine ourselves to the females in the particular age groups 15–24 we find :—

	1921	1931
Number living	70,215	72,714
Number of deaths from pulmonary tuberculosis..	129	109
Giving a death rate of approximately	183 per ten thousand	150 per ten thousand

An 18 per cent. decrease in the 10 years.

The diminution in the death rates, therefore, is only one per cent. less in the age groups 15–24 years than it is in all age groups combined.

When the subject is reduced to this critical analysis the conclusion as to the gross loss of life, and also as to the non-reduction of mortality in these groups, reveals a different picture and one not quite so gloomy. It is recognised that the course of the disease in young people is at times of a very acute nature, and every effort has to be made to secure treatment at the earliest possible time. If this can be done by early notification the saving of life will be still more marked.

NON-PULMONARY TUBERCULOSIS.

The gross diminution in the deaths from surgical tuberculosis is accounted for by a lessened mortality amongst females. The males on the other hand show a slight increase over 1931, due to a few more deaths in the age groups from 5 to 24. Amongst females there are less deaths between the ages 5 to 24 than there were in 1931.

NOTIFICATION.

The notification rate is lower than in 1931 for both pulmonary and non-pulmonary tuberculosis, being per thousand 1.93 for all forms and both sexes, this representing a decrease of .39. The figure for pulmonary tuberculosis is 1.41 as against 1.67 for 1931, and for non-pulmonary tuberculosis .52 as against .65. Further sub-division reveals these reductions as occurring more markedly amongst males than amongst females, and this difference exists to a greater extent in the case of pulmonary tuberculosis than in that of non-pulmonary tuberculosis.

Gratifying as these figures are, it may be pointed out again that a too definite drop in the notification rate during one year is not necessarily a real criterion of lack of infection. Experience of the past shows that there are many factors to be considered in estimating the true significance of these fluctuations, and a steadier curve associated with a gradually diminishing death rate curve represents greater resistance and recovery.

In summing up these results it is of interest to note that the figures represent the lowest death rate yet recorded in Manchester from pulmonary tuberculosis. The figure of one per 1,000 has now been reached and though there will be variations, as in the past, it is a hopeful sign for the future. Provided that all agencies combine to limit the degree of infection and promote resistance progress will occur.

HOUSING.

In regard to housing it may be of interest to record the assistance given to rehousing families in whom tuberculosis has occurred. A large number of applications are received by the Tuberculosis Officer for help in securing suitable Corporation houses. These are all carefully considered in relation both to the requirements of the patient in regard to adequate conditions of living, and to the danger of family infection. The greater number apply on grounds other than the above and are referred, if necessary, to the appropriate department. Those suitable on medical grounds are recommended by a personal letter to the Medical Officer of Health for the Committee, and over 100 such recommendations have been sent. The great majority of these applicants have already been allotted houses.

With better housing, more employment, purer food, and a diminution of the milk-borne infection, by whatever means secured, we shall see the tuberculosis rate controlled still more, both in its incidence in the acute form and in its drain upon the population through death.

During the year a summary has been prepared upon two aspects of chest work of particular interest.

I —ARTIFICIAL PNEUMOTHORAX TREATMENT.

In the 1929 report a full record of our practice and conclusions in this branch of work was given and the figures have now been brought up-to-date. The broad policy pursued has not altered. Sanatorium treatment properly carried out by the patient, and effectively administered by the medical and nursing staff, provides in cases with adequate resistance the one effective means of promoting healing of the damaged lungs. For its efficient functioning it necessitates making use of every method of diagnosis and treatment that has been found reliable by experience and research to ascertain the full nature of the lesion and its progress.

The ancillary means of securing greater rest to the injured lung have also a part in the treatment and artificial pneumothorax finds its place here. This place is to supplement, but not to replace, sanatorium care, and in very few instances indeed is it, in my opinion, justifiable to initiate the course of treatment by establishing a collapse of the lung. The operation is not without its own peculiar dangers and after-effects, to which due consideration must be given when deciding upon this line of treatment. The proportion of patients for whom artificial pneumothorax treatment is desirable is small, in my experience less than five per cent. of all those who are recommended for institutional care. The two tables which follow show the after-histories of 199 cases.

These have not been selected in any way for the purpose of the enquiry and are as complete a consecutive record as it was possible to secure. It is to be noted that the table only deals with those upon whom a successful induction was performed and does not, therefore, represent the total number for whom an attempt to provide this form of treatment was made.

Males:—

Total	Average Age	STAGE					
		T.B. +			T.B.O.	Side	
		I.	II.	III.		Left	Right
92	28.9	6	47	33	6	47	45

Condition			Dead	Improving	Deterior- ating	Station- ary	Left Area	No Active Signs
Under 1 year	..	..	13	9	I	6	2	..
After 1 year	..	..	7	7	3	3	4	..
„ 2 years	..	..	7	I	2	..	2	..
„ 3 „	..	..	3	I	I	..	..	..
„ 4 „	..	..	I	2	I	..	..	I
„ 5 „	..	..	I	..	I	..	..	I
„ 6 years and over.			8	..	..	..	2	2
Totals	..		40	20	9	9	10	4

Females:—

Total	Average Age	STAGE					
		T.B. +			T.B.O.	Side	
		I.	II.	III.		Left	Right
107	23.4	7	49	40	11	53	54

Condition			Dead	Improving	Deterior- ating	Station- ary	Left Area	No Active Signs
Under 1 year	..	..	26	23	..	5	4	..
After 1 year	..	..	13	2	I	I	I	..
„ 2 years	..	..	4	2	I	3	3	..
„ 3 „	..	..	8	..	..	I	I	..
„ 4 „	..	..	I	I	I	..	I	..
„ 5 „	..	..	..	..	..	..	..	2
„ 6 years and over.			..	..	..	I	..	I
Totals	..		52	28	3	11	10	3

After deducting the number of cases who have left the area it will be noted that the total death rate after six years is 51·4 per cent., being higher in the case of the females than it is in the males. It is desirable to compare these figures with those obtaining for a large number of cases in whose treatment artificial pneumothorax had no part. We then find that the mortality amongst 4,781 cases treated at the Baguley Sanatorium in the 10 years ending 1931, the patients being mostly in the second and third stage of disease, is 70·7 per cent. within 10 years of treatment. The mortality figure for the Crossley Sanatorium (Delamere) cases, *i.e.*, those in the earlier stages, is for 2,037 cases over the same period 40·8 per cent.

The cases upon whom the artificial pneumothorax has been done were treated in various sanatoria, but more were done at Baguley than at any of the other institutions. Accordingly these cases have been separately analysed in regard to their deaths. We find then that in the 10 years ending December, 1931, 90 cases had successful inductions performed. Eleven of these left the area and the mortality of the remaining 79 was 65·8 per cent. in the 10 years mentioned above. The general mortality of all the remaining cases treated at Baguley, *i.e.*, without artificial pneumothorax, for the same period was 70·7 per cent., as already given above.

So much for the final test of mortality. It is essential to establish these facts in a critical review of any form of treatment. At the same time there is something more to be said in regard to the subject.

Artificial pneumothorax treatment will, in suitable instances, prolong the useful life of an individual, by earlier restoration of working capacity, by reason of substituting a relative local rest for general rest. Furthermore, infectivity is frequently diminished owing to the cessation or marked reduction of expectoration of tubercle bacilli. It also has its place in dealing with hæmoptysis and in replacement operations after aspiration of fluid

Moreover, individual cases secure in some instances a greater degree of comfort by the induction. Cough and pain may be diminished and the symptoms of toxæmia become less troublesome. These advantages should be recognised and assessed at their proper value in the complete review.

2.—PULMONARY NEOPLASMS—*An analysis and some notes.*

During the course of the clinical examinations associated with the work of the Tuberculosis Department, a variety of pathological conditions is met with. These may be pulmonary or non-pulmonary, and amongst the former there occur a number of cases of new growth of the lung. The differential diagnosis of these cases is frequently of some difficulty. It is obviously important to

obtain the earliest possible evidence of the presence of malignant disease and differentiate it from a tubercular process. On the diagnosis depends the immediate advice given to the patient in regard to his treatment, and with the different prognostic outlook the recommendation for the future mode of life, alteration in work, change of residence, etc., may be widely different in the two complaints.

The subject is therefore of more than mere academic interest, and it may be of value to analyse the most recent cases that have come under my notice. There are 89 of them (most of which have been under observation in hospital) and the diagnosis is beyond reasonable doubt in each instance.

All of these cases were primary growths in the lung; those occurring as secondary manifestations to malignant disease elsewhere having been excluded.

The patients consisted of 76 men and 13 women, and the analysis of these cases is very briefly summarised in the following tables:—

SUMMARY.

Age Groups:—

15-20 years	..	..	..	..	..	..	..	3
20-25 „	..	..	..	..	..	..	..	1
25-30 „	..	..	..	..	..	..	..	—
30-35 „	..	..	..	..	..	..	..	2
35-40 „	..	..	..	..	..	..	..	6
40-45 „	..	..	..	..	..	..	..	9
45-50 „	..	..	..	..	..	..	..	17
50-55 „	..	..	..	..	..	..	..	18
55-60 „	..	..	..	..	..	..	..	17
60-65 „	..	..	..	..	..	..	..	10
65-70 „	..	..	..	..	..	..	..	5
70-75 „	..	..	..	..	..	..	..	1

The youngest was a girl of 17 years old, and is one of the earliest cases recorded I believe.* The oldest case was a woman of 71 years.

* See "Tubercle," September, 1930.

Occupation.

Regarding the occupations a variety of work was done by the cases under review. The outstanding feature is the fact that many of them were associated with dusty work and also with fairly heavy physical effort. Only a small number of these malignant cases were engaged upon sedentary indoor occupations.

Duration of Illness :—

Under 3 months	.. .. .	2
3 to 6 months	.. .. .	18
6 to 9 months	.. .. .	14
9 months to 1 year	.. .. .	15
1 year to 1½ years	.. .. .	20
1½ years to 2 years	.. .. .	6
2 years to 2½ years	.. .. .	6
2½ years to 3 years	.. .. .	2
Over 3 years	.. .. .	5
Duration unknown	.. .. .	2

Earliest Symptom :—

Cough	.. .. .	73
Pain	.. .. .	10
Wasting	.. .. .	5
Hæmoptysis	.. .. .	1

Association of Symptoms :—

Cough	.. .. .	77
Expectoration	.. .. .	66
Wasting	.. .. .	78
Dyspnœa	.. .. .	66
Pain	.. .. .	77
Hæmoptysis	.. .. .	46

Physical Signs :—

Dulness was present in 87 cases over the region of the growth. There were defective breath sounds in 71 cases—generally at some little distance from the growth and in many instances at the base associated with the presence of fluid. In 60 cases there was increased conduction of breath sounds and of the whispered voice. Moist sounds occurred in 40 instances, generally due to inflammatory changes or to bronchiectasis, and there were signs of fluid in 27.

Localisation (Clinical, Post-mortem, and X-ray are all included) :—

Right upper lobe	.. .. .	31
Left upper lobe	.. .. .	32
Right lower lobe	.. .. .	14
Left lower lobe	.. .. .	16
Mediastinum	.. .. .	20

Many cases had mediastinal involvement, in others more than one lobe was involved. This accounts for the totals being greater than the number of cases.

The clinical findings were confirmed by post-mortem examination in 37 cases. In 66 cases the X-ray examination contributed materially to the diagnosis of the existence of neoplasm. Nine cases were not confirmed by post-mortem or X-ray examination, although the history, clinical findings, and subsequent progress left no doubt as to the nature of the disease, and in two cases sputum examination revealed typical malignant tissue.

Origins as shown by Post-mortem :—

Right upper lobe	..	..	..	..	..	..	15
Left upper lobe	..	..	..	..	..	..	8
Right lower lobe	..	..	..	..	..	..	6
Left lower lobe	..	..	..	..	..	..	7
Mediastinum	..	..	..	..	..	..	1

The nature of the growth as confirmed by post-mortem examination was carcinoma of the bronchus in 36 cases, and sarcoma of the mediastinum in one case. Clinically the remainder appeared to be carcinoma of the bronchus in 43 cases (including two confirmed by sputum examination) and malignant disease of the mediastinum in eight, but see the later note regarding this. There was one case of endothelioma of the pleura.

It is to be noted that in the cases not confirmed by post-mortem, the X-ray and clinical evidence may lead to the diagnosis of primary mediastinal growth. The actual post-mortem findings show the origin of the growth to be generally the bronchial mucous membrane. It is therefore probable that the apparent number of mediastinal growths which emerge from this analysis of the cases in which a post-mortem examination could not be made is too high, and arises in part from the fact that the tumour frequently invades the mediastinum, so causing symptoms and signs due to this involvement. If any case examined gives rise to a suspicion that the main trouble is mediastinal the foregoing explanation for this may be kept in mind. An interesting example of this occurred in Case No. 40. Clinically and radiologically this case was one of mediastinal tumour, but during his illness he coughed up some solid material, and this was examined at the laboratory and sections showed the presence of a columnar-celled carcinoma, originating in one of the bronchi.

DIAGNOSIS.

In the earlier stages of the disease the diagnosis may be a matter of extreme difficulty. The neoplasms having their origin in bronchial mucous membrane may not cause any symptoms except the slight cough of bronchial irritation. Later as the growth becomes more defined extension takes place causing obstructive symptoms with distal collapse, inflammation and bronchiectasis, and the signs are more distinctive.

Bronchoscopy may show the presence of altered bronchial mucosa provided that the initial lesion is accessible to this means of examination. In other cases it may reveal a narrowing of the lumen.

In many cases radiography will help, but some of the centrally situated growths may give no distinctive shadow even in later stages. Cases have been noted where radiological examinations have been quite negative and a post-mortem has revealed a bronchial carcinoma of greater or less extent.

In the earlier stages X-ray examination may be useless. For example, Case 10291, upon examination by the radiologist soon after the clinical diagnosis was made, was reputed to show only thickened pleura and signs of root tubercle. A month later the X-ray showed consolidation, and neoplasm was almost certainly indicated.

Careful enquiry into the medical record and painstaking review of the physical signs will, however, in most established instances create at least a suspicion in one's mind that the underlying cause of the illness may be new growth, and the processes of exclusion will further strengthen this belief.

In a large number of cases the length of history as given in the précis of the analysis, although as accurate as can be obtained, actually only relates to the exacerbation of symptoms which have so often been present in the form of recurring colds, winter coughs, attacks of bronchitis, and general chest weaknesses over a period of many years. To what extent these existing conditions have so far lowered the resistance of the individual to the specific development of neoplasm, or have on the other hand by reason of their presence stimulated the abnormal cell activity through mechanical irritation or toxic inflammation is, in our present state of the knowledge of the etiology of malignant disease, not yet apparent.

Metaplastic changes in the cells lining the bronchi have been described as occurring in conditions of prolonged irritation from whatever cause arising; and in these long standing cases of bronchitis, etc., and possibly in post-influenzal catarrhs, the necessary stimulus may occur.

All cases presenting primary pleurisy with effusion must be suspect of tubercle, but in those occurring towards and after middle age the possibility of growth looms large.

The withdrawal of fluid sometimes reveals a blood-stained effusion which is more common in growth than tubercle. The fluid is seldom purulent. A subsequent X-ray may be valuable.

The cough is not characteristic, but it is more often of a hard painful nature and spasmodic in type than in pulmonary tuberculosis.

Cough and expectoration may exist for some months before any marked loss of weight is noted and before evident symptoms of toxæmia develop. In reference to cough and expectoration I am not alluding to what has already been said about the chest symptoms which have frequently preceded the final illness for many years; rather does it refer to the commencement of the terminal illness, and is to be correlated with the fluctuating periods of improvement mentioned later.

Dyspnœa is also not infrequent and pain has been mentioned. This pain frequently commences about the sternum or between the scapulæ, but may also radiate into either lung, more often the affected one, and be very intense and persistent.

Sputum is not characteristic. Some cases have little and that mostly clear and perhaps frothy. In the majority it is purulent from secondary infection and staining is common. Two of the cases in this series coughed up fragments of tissue which, on microscopical examination, revealed bronchial carcinoma cells.

Hæmoptysis has been referred to: this may be much or little, the amount not being significant. As a matter of fact the blood appears generally as a staining of the sputum rather than as a free hæmoptysis such as occurs in tubercle. Staining is apt to be continuous, but is seldom the first symptom.

In many of these cases loss of weight is not a marked feature in the early stages of the disease and the condition may fluctuate considerably. The patient may improve and gain weight, his comfort increase and all his symptoms become less troublesome for the time being. These intermissions are not of long duration.

In eleven instances amongst the cases under review an interesting feature was the presence of symptoms pointing to gastric trouble. The patients had received treatment directed to relieve gastric or duodenal ulceration, operative measures having been performed in two instances. These symptoms have generally ante-dated the development of chest symptoms by perhaps a year, but in two instances by several years.

The not unusual occurrence of gastric and duodenal ulcers occurring prior to the diagnosis of pulmonary tuberculosis has been noted and commented upon elsewhere in relation to this latter disease.

The association of pulmonary tuberculosis with malignant disease is not infrequent; in this series of cases it occurred as an active form of disease in seven instances.

The suspicion of the existence of neoplasm during the course of a case of pulmonary tuberculosis may arise from an increasing dyspnœa, out of proportion to the physical signs, together with the occurrence of pain, and by more rapid wasting. The pain is frequently between shoulders, in the sternal region, or in the upper parts of the chest. The finding of enlarged glands in the axilla or neck and X-ray evidence of massive consolidation are, of course, strongly suggestive. It is to be noted, however, that enlarged glands are not at all a usual feature of these cases of new growth, and only in a very few did they occur. This observation applies only to the axillary and cervical glands, *i.e.*, those palpable. Mediastinal and bronchial glands are generally involved.

PHYSICAL SIGNS.

Dulness of a particularly intense degree is found more often in cases of growth than in any other pulmonary lesion. This dulness may be due to consolidation of growth—collapse of lung or inflammatory consolidation of lung. Thickening of pleura and pleural effusion caused by the growth give rise to the usual basal dulness.

In the majority of cases there is a definite restriction of movement in the side affected, and where the lesion is limited to the upper lobe it is frequently found that only that portion of the chest has its mobility impaired. Basal movement in these cases is free unless there is pleuritic effusion or old adhesions.

In some instances of upper lobe lesions there is a sensation of unusual firmness and resistance to pressure when the fingers are applied over the upper parts of the chest wall, *e.g.*, in the supraclavicular and infraclavicular areas. This is generally evidence of the gross infiltration of the lung by growth, or is due to the associated inflammatory consolidation.

Abnormal conduction of breath sounds, exaggeration of the whispered voice and bronchial breathing are not infrequent in the upper parts of the lung, whilst below we may find deficient breath sounds—diminished conduction—absence of tactile fremitus and limitation of movement. The presence of fluid may be detected and it may be difficult to differentiate this from pleural thickening only. The defective breath sounds which occur as a rule in the lower or more distant parts of the lung may be due to obstruction of a bronchus.

Increased conduction, which is at times so intense as to amount to bronchial breathing, points in general to the solidification and infiltration of the tumour itself, or it arises from the associated inflammatory reaction external to it. This physical sign is also present when there is cavitation of the lung, due to breaking down of growth or to bronchiectasis. In the latter a varying degree of obstruction causes the dilatation. It may occur from mere septic infection and poor drainage, without complete occlusion of bronchus or bronchiole. Such obstruction is due either to growth within the bronchus or from external pressure arising from the advancing infiltration by the tumour.

Catarrhal inflammation and patchy pneumonia often occur in these cases. The post-mortem and radiological appearances of many of these areas of infiltration, softening, necrosis, cavity formation and bronchiectasis, are very similar to those arising in tuberculosis, and the physical signs over certain areas cannot be distinguished from those due to that disease. The whole picture has to be taken together.

Cardiac displacement is not uncommon and it is to be noted that this displacement is frequently towards and not away from the affected side.

Moist sounds are not characteristic and may be absent, but if present any type may be heard.

Temperature fluctuation is quite general in these cases, but the temperature range is generally less than it is in a case of pulmonary tuberculosis and only rarely shows the peaked temperatures so often found in the later stages of the latter disease.

PATHOLOGY.

The pathology of cases may be a little obscure in so far as the histological differentiation is concerned, and the tumours are variously described as consisting of oat cells, small round cells, columnar cells, cylindrical cells, and squamous cells. The differentiation is an academic one and of interest to the pathologist, but at present its bearing upon clinical work is not clear and it has no immediate practical value.

The growth, commencing generally in a large bronchus near the root of the lung, more often on the right than the left side, extends into and along the bronchial wall destroying the adjacent lung by infiltration. At the same time extension into the glands at the hilum takes place with a further development of new growth in the mediastinum. From there it may involve the pericardium and heart (in one of these cases it grew into the right auricle), or it spreads over to the opposite root, surrounding the great vessels in its course and causing pressure symptoms and pain. Paralysis of the diaphragm occurs from pressure destruction of the phrenic nerve.

Secondary metastases are not wide spread—odd ones may occur as in some of our cases in the appendix, suprarenal gland, rib, liver, skin, etc., and also in the opposite or the same lung, but these are not frequent. The spread is by direct extension in the main. In one case a generally diffuse spread of a miliary type occurred throughout both lungs. The growth is generally solid, infiltrating, and compact, but it may present areas of necrosis and debris-filled cavities.

Most of the post-mortems show, of course, evidence of old pulmonary tuberculosis in the form of pleuritic adhesions—areas of fibrosis and calcified nodules and glands.

The presence of active pulmonary tuberculosis in association with new growth is, as mentioned already, of moderate frequency, and possibly a routine examination of all cases of fatal pulmonary tuberculosis would show histological evidence in some of them of changes of a proliferative and malignant type.

The following are notes on a mixed case of pulmonary tuberculosis and new growth of the lung, Case No. 14707 :—

“ This man was first brought to our notice in August, 1928. At that time he was feeling ill, had been losing weight, and suffered from shortness of breath and pain on the left side of the chest. He had had a cough for years and this had been worse for the last two months. He had a certain amount of expectoration, no hæmoptysis, no night sweats.

On examination a pleural effusion was found at the left base and he was admitted to sanatorium. Whilst there the sputum was found to contain tubercle bacilli. The temperature and pulse were normal. The effusion rapidly absorbed and during the six weeks he was an inmate he gained 11½ pounds in weight. He left at his own request.

He remained in good health, and with the exception of a slight cough with weak breath sounds in the left base, there were no other symptoms or signs. He carried on his full work for the next three years and was kept under general observation. Most of his weight was retained. In October, 1931, he began to complain of pain on the right side of the chest, back and front. This was intermittent and not related to respiration, and three months later he was admitted to the Infirmary, where there was found to be a good deal of dulness to percussion in the right upper lobe, together with diminished breath sounds anteriorly at the apex. There were harsh breath sounds over the apex of the right lower lobe posteriorly. He had two severe attacks of pain whilst there with marked dyspnoea. His sputum, which was scanty, was examined for tubercle bacilli, but these were not found. He was transferred to one of my wards at another hospital in February, 1932, and I then found marked dulness in the right upper lobe anteriorly and posteriorly, together with some slight increase in conduction. In the area of the right middle and lower lobes there was no dulness, but the breath sounds were very harsh. Auscultation over the left apex posteriorly revealed the presence of crepitations. The diagnosis made then was that the case was one of mixed pulmonary tuberculosis and neoplasm, the tuberculosis affecting the left upper lobe and the neoplasm the right upper lobe. An X-ray taken at the time showed a well-defined shadow obscuring the right upper lobe and some infiltration in the left root and apex. A later examination revealed tubercle bacilli again.

The temperature varied between 97 and 100·4, being more consistent with the type found in malignant disease than in tubercle. The condition rapidly deteriorated and the man died on April 14th, 1932.

A post-mortem examination was made and active pulmonary tuberculosis was found to exist on the left side, both upper and lower lobes being invaded. There was found to be in the right upper lobe a carcinoma arising in the bronchus and spreading into the upper and middle lobes. The lower portion of the middle and lower lobes on the right side showed retention bronchiectasis.”

The findings were entirely consistent with the physical signs already referred to. The duration of the existence of carcinoma in this case is difficult to determine, but the duration of symptoms was certainly not more than six months.

LIGHT THERAPY.

Artificial light treatment has been continued for those cases that experience has proved benefit by this form of therapy. During the last five years 162 cases have been under this treatment. Two forms of artificial sunlight are made use of and comprise the mercury vapour lamp, which was in use up to the time we moved into the new clinic, and the open arc lamp.

The following table analyses these cases in detail and shows a gain in weight and improvement in many patients. Quiescence was secured in a number of those who completed the necessary course of treatment. It is to be noted that those particularly benefitting are the sufferers from tuberculous adenitis (with or without abscess formation) and those in whom abdominal tuberculosis existed. It must be borne in mind that no figures of the treatment of lupus appear, as these cases are treated by the Manchester Skin Hospital (on behalf of the Corporation) by light therapy, and in the majority of instances with very marked benefit:—

Localisation of the Disease	No. of Cases	Sex		Condition of Cases at the end of Treatment				Weight Record			Average duration of Treatment in Months	Treatment discontinued
		M.	F.	Quiescent	Improved	Stationary	Worse	Gain	Stationary	Loss		
Tuberculous adenitis with abscess	11	7	4	5	2	..	..	5	2	..	9.8	4
Tuberculous adenitis without softening ..	67	31	36	24	6	4	3	26	5	6	8.9	30
Tuberculosis of bones, joints, and spine ..	11	8	3	2	1	2	..	4	..	1	11.4	6
Tuberculosis of abdomen and tabes mesenterica	27	11	16	11	4	1	..	13	1	2	8.8	11
Tuberculosis of bronchial glands	3	3	..	..	2	..	..	2	..	..	9.0	1
Tuberculosis of skin ..	3	2	1	..	1	..	..	..	1	..	4.0	2
Tuberculosis of kidney ..	1	..	1	..	..	..	..	..	..	..	..	1
Pre-tuberculous conditions	4	3	1	..	3	..	..	3	..	.	9.0	1

The statistical tables for the year are set out in the following pages :—
COMPARATIVE FIGURES.

TABLE I.

Rates per Thousand of the Population.

	1926	1927	1928	1929	1930	1931	1932
<i>Death Rates :—</i>							
General	13·28	13·90	13·06	15·51	13·07	13·86	13·03
All respiratory diseases (except tuberculosis) ..	2·61	2·93	2·42	3·25	2·10	2·59	1·98
Tuberculosis (all forms) ..	1·41	1·38	1·29	1·4	1·37	1·29	1·17
Phthisis, both sexes ..	1·19	1·15	1·10	1·21	1·15	1·12	1·00
,, males only ..	1·58	1·41	1·42	1·54	1·41	1·43	1·23
,, females only ..	·84	·92	·80	·91	·91	·82	·79
Non-pulmonary tuber- culosis, both sexes ..	·22	·22	·19	·19	·22	·17	·16
<i>Tuberculosis Notification Rates :—</i>							
All forms	2·44	2·53	2·51	2·28	2·23	2·32	1·93
Pulmonary only	1·84	1·88	1·87	1·79	1·64	1·67	1·41
Non-pulmonary only ..	·60	·65	·64	·48	·59	·65	·52

TABLE 2.
NEW CASES AND DEATHS DURING 1932.

Age Periods	New Cases				Deaths			
	Pulmonary		Non-Pulmonary		Pulmonary		Non-Pulmonary	
	M.	F.	M.	F.	M.	F.	M.	F.
0	..	1	2	4	..	2	6	1
1	13	11	34	35	9	8	20	18
5	18	14	54	32	..	2	10	10
10	7	21	21	28	1	9	6	4
15	55	91	26	29	17	35	8	4
20	59	99	11	22	43	71	4	3
25	115	119	21	24	69	82	8	2
35	119	75	17	13	85	51	1	3
45	122	50	9	9	129	38	3	5
55	61	13	5	3	75	16	1	4
65 and upwards	17	7	1	2	19	9	2	3
Totals ..	586	501	201	201	447	323	69	57

The number of non-notified deaths from pulmonary tuberculosis was 34 = 4.41 per cent.

The number of non-notified deaths from non-pulmonary tuberculosis was 28 = 22.21 per cent.

The percentage of non-notified deaths from all forms of tuberculosis was 6.91.

There were, in addition, 16 deaths of non-notified cases outside Manchester which were adjudged by the Registrar-General to be properly referable to this area.

It is to be noted that 13 of the 28 cases were certified as cases of tubercular meningitis—these had a very short illness as a rule and diagnosis was often in some doubt during life.

The increased accommodation now furnished for the treatment of non-pulmonary tuberculosis at Abergele will, it is hoped, help in the further reduction of the number of non-notified deaths from surgical tuberculosis.

TABLE 3.
PRIMARY NOTIFICATIONS OF PULMONARY AND NON-PULMONARY TUBERCULOSIS
RECEIVED FROM MUNICIPAL WARDS DURING 1932.

Wards	Pulmonary	Non-Pulmonary	Totals
1. Exchange	1	1	2
2. New Cross	68	20	88
3. St. Clement's	13	2	15
4. Oxford	4	..	4
5. St. John's	10	2	12
6. St. Ann's .. .. .	..	..	..
7. St. Michael's	42	13	55
8. Collyhurst	41	13	54
9. Cheetham	21	6	27
10. Collegiate Church	32	9	41
11. Crumpsall	17	11	28
12. Blackley	25	12	37
13. Harpurhey	23	10	33
14. Moston	22	10	32
15. Newton Heath	31	10	41
16. Miles Platting	39	10	49
17. Bradford	30	10	40
18. Beswick	50	15	65
19. Ardwick	47	12	59
20. Openshaw	28	6	34
21. St. Mark's	48	19	67
22. Longsight	24	17	41
23. All Saints'	30	16	46
24. St. Luke's	47	22	69
25. Medlock Street	45	25	70
26. St. George's	49	20	69
27. Moss Side East	40	15	55
28. Moss Side West	34	9	43
29. Chorlton-cum-Hardy	39	16	55
30. Didsbury	29	11	40
31. Withington	47	18	65
32. Gorton North	25	9	34
33. Gorton South	39	15	54
34. Levenshulme	13	5	18
35. Rusholme	27	7	34
36. Wythenshawe	7	6	13
Total—City of Manchester	1,087	402	1,489

TABLE 4.
SOURCES OF NOTIFICATION OF TUBERCULOSIS DURING 1932.

Source	Pulmonary	Non-Pulmonary	Totals
Crumpsall Hospital	80	19	99
Withington Hospital	97	13	110
Booth Hall Hospital.. .. .	25	59	84
District Medical Officers	1	..	1
Manchester Royal Infirmary	33	78	111
Ancoats Hospital	11	21	32
Skin Hospital .. .. .	..	28	28
St. Mary's Hospital	3	..	3
Northern Hospital	4	11	15
Jewish Hospital	3	1	4
Pendlebury Hospital.. .. .	4	15	19
Babies' Hospital	3	3	6
Hulme Dispensary .. .. .	..	..	..
Gartside Street Dispensary	5	20	25
Hardman Street Dispensary	57	1	58
Asylums	4	..	4
Schools	2	27	29
Tuberculosis Staff	61	18	79
Military	4	1	5
Various Sources	33	16	49
Private Practitioners	657	70	727
Child Welfare Centres .. .. .	..	1	1
Swinton House .. .. .	..	..	..
Total	1,087	402	1,489

178 tenants have allowed the removal of bedding, etc., for disinfection ; or have themselves burned it in a few instances.

70,128 cardboard boxes have been prepared in the office and supplied to patients for spitting purposes in the home.

633 spit bottles have been supplied for use outside the house.

17,190 visits have been made by the Enquiry Officers during the year.

52,408 letters were sent out.

587 notices warning against spitting on floors, etc., have been supplied to offices and workshops.

TABLE 5.

SOURCES OF PRIMARY NOTIFICATION OF NON-PULMONARY CASES FOR THE
YEARS 1918 TO 1932.

Source	1918- 1922	1923	1924	1925	1926	1927	1928	1929	1930	1931	1932
Empsall Hospital	112	21	34	24	13	14	16	20	20	20	19
Whington Hospital	79	33	29	22	20	11	13	16	21	18	13
Both Hall Hospital	216	38	47	67	52	58	43	28	64	63	59
Essex District Medical Officers	3	..	2	..	..	..	..	..	2	..	..
General Infirmary	428	125	99	99	80	106	98	60	60	92	78
Boats Hospital	194	76	76	57	50	47	40	22	33	34	21
St. Mary's Hospital	216	48	41	37	38	37	37	29	36	33	28
St. Mary's Hospital	52	21	15	14	7	17	13	6	8	10	..
Northern Hospital	32	30	5	15	7	7	9	3	2	10	11
British Hospital	33	1	5	10	7	1	7	3	5	6	1
Widleybury Hospital	22	8	8	16	10	5	12	10	30	26	15
Boys' Hospital .. .. .	..	..	..	..	6	2	..	..	2	2	3
Home Dispensary	1	..	..	..	2	..	..	..	..	..	..
Essex Street Dispensary..	209	71	41	61	33	34	22	21	23	15	20
Edman Street Dispensary.	103	21	11	7	8	9	21	16	20	9	1
Edon Hospital	2	3	1	..	..	..	1	1	..	..	..
Alms	25	..	2	1	1	1	..	2	2	2	..
Boys	114	34	23	26	11	10	20	4	9	23	27
Tuberculosis Office Staff ..	58	20	19	9	6	11	12	20	13	10	18
Nursery	20	7	1	2	2	1	..	..	..	..	1
Various Sources	70	20	14	29	9	19	22	12	25	16	16
Private Practitioners	861	152	150	126	101	113	104	102	89	96	70
Old Welfare Centres.. ..	..	..	..	..	..	..	..	..	2	..	1
Stanton House .. .. .	..	..	..	..	..	..	..	..	..	11	..
	2,850	730	623	622	463	503	490	375	466	496	402

TABLE 6.
NUMBER OF NEW CASES OF PULMONARY TUBERCULOSIS
NOTIFIED DURING THE YEARS 1900 TO 1932.

Year					Poor-law Cases	Institutions	Private Practitioners	Total	
(1)	1900*	..	..	..	..	578	455	540	1,573
	1901	..	..	..	..	625	373	341	1,339
	1902	..	..	..	..	667	305	303	1,275
	1903	..	..	..	..	556	550	251	1,357
	1904	..	..	..	..	512	440	250	1,202
	1905	..	..	..	..	527	588	291	1,406
	1906	..	..	..	..	565	510	304	1,379
	1907	..	..	..	..	634	646	310	1,590
(2)	1908	..	..	..	..	659	498	346	1,503
	1909	..	..	..	..	681	542	384	1,607
	1910	..	..	..	..	543	760	356	1,659
(3)	1911	..	..	..	..	517	897	423	1,837
(4)	1912	..	..	..	..	488	947	969	2,404
(5)	1913	..	..	..	..	345	717	1,350	2,412
	1914	..	..	..	..	483	877	1,304	2,664
	1915	..	..	..	..	279	740	1,194	2,213
	1916	..	..	..	..	322	817	1,410	2,549
	1917	..	..	..	..	470	716	1,061	2,247
	1918	..	..	..	..	268	563	1,015	1,846
	1919	..	..	..	..	208	538	845	1,591
	1920	..	..	..	..	206	629	672	1,507
	1921	..	..	..	..	257	632	722	1,611
	1922	..	..	..	..	233	567	656	1,456
	1923	..	..	..	..	239	546	659	1,444
	1924	..	..	..	..	223	555	731	1,509
	1925	..	..	..	..	262	496	746	1,504
	1926	..	..	..	..	220	422	765	1,407
	1927	..	..	..	..	241	441	756	1,438
	1928	..	..	..	..	253	361	824	1,438
	1929	..	..	..	..	201	382	802	1,385
	1930	..	..	..	..	201	377	709	1,287
						<i>Transferred Hospitals</i>			
	1931	..	..	..	..	206	362	717	1,285
	1932	..	..	..	..	202	228	657	1,087
Total.....					12,871	18,477	22,663	54,011	

* This table does not include 425 cases notified in 1899.

(1). Voluntary notification of Pulmonary Tuberculosis—Manchester scheme.

(2). Compulsory notification (Tuberculosis Regulations) from Poor Law institutions.

(3). Compulsory notification from voluntary institutions.

(4). Compulsory notification of Pulmonary Tuberculosis by all practitioners.

(5). Compulsory notification of all forms of Tuberculosis.

TABLE 7

NUMBER OF NEW CASES OF NON-PULMONARY TUBERCULOSIS NOTIFIED
DURING THE YEARS 1913-1932.

Year	Total		Total
	Males	Females	
1913	759	714	1,473
1914	519	413	932
1915	422	415	837
1916	418	467	885
1917	433	449	882
1918	345	353	698
1919	206	228	434
1920	280	257	537
1921	295	281	576
1922	321	284	605
1923	350	380	730
1924	316	307	623
1925	322	300	622
1926	239	224	463
1927	277	226	503
1928	214	276	490
1929	204	171	375
1930	251	215	466
1931	259	237	496
1932	201	201	402
Total	6,631	6,398	13,029

PRIMARY NOTIFICATIONS AND DEATHS FROM PULMONARY TUBERCULOSIS, 1917-1932.

TABLE 8.
Age—Groups.

Pulmonary Tuberculosis	0-	1-	5-	10-	15-	20-	25-	35-	45-	55-	65-	TOTAL	
												Notifications	Deaths
Notifications, 1917-1922.. Deaths, " " "	34 22	254 87	685 75	688 168	980 555	986 578	1947 1051	2003 1361	1537 1248	740 619	334 268	10188	6032
Notifications, 1923 .. Deaths, " " "	3 3	23 12	103 8	84 18	159 96	160 117	294 181	273 190	207 193	106 82	32 31	1444	931
Notifications, 1924 .. Deaths, " " "	2 3	30 8	81 4	90 13	174 91	175 97	297 168	298 218	237 188	97 86	28 30	1509	906
Notifications, 1925 .. Deaths, " " "	7 3	41 13	70 8	97 14	152 109	178 97	279 179	269 193	254 234	122 105	35 42	1504	997
Notifications, 1926 .. Deaths, " " "	14 6	39 21	43 6	68 9	165 66	188 106	282 171	254 200	217 186	104 99	33 35	1407	905
Notifications, 1927 .. Deaths, " " "	3 3	36 15	75 9	81 14	138 83	186 110	251 157	275 159	245 198	114 101	34 32	1438	881
Notifications, 1928 .. Deaths, " " "	3 2	16 8	63 6	66 12	144 65	158 109	319 161	258 167	233 182	149 109	29 31	1438	843
Notifications, 1929 .. Deaths, " " "	1 1	18 7	38 3	43 7	146 76	191 117	294 179	254 190	235 191	135 121	30 38	1385	930
Notifications, 1930 .. Deaths, " " "	2 6	11 2	55 6	37 9	147 89	184 110	263 200	227 150	203 168	122 129	36 34	1287	903
Notifications, 1931 .. Deaths, " " "	1 3	10 4	75 6	63 10	143 67	191 111	263 195	209 151	191 166	113 109	26 33	1285	855
Notifications, 1932 .. Deaths, " " "	1 2	24 17	32 2	28 10	146 52	158 114	234 151	194 136	172 167	74 91	24 28	1087	770
Total notifications .. Total deaths ..	71 54	502 194	1320 133	1345 284	2494 1349	2755 1666	4723 2793	4514 3115	3731 3121	1876 1642	641 602	23972	14953

PRIMARY NOTIFICATIONS AND DEATHS FROM NON-PULMONARY TUBERCULOSIS, 1917-1932.

TABLE 9.
Age—Groups.

Non-pulmonary Tuberculosis	0-	1-	5-	10-	15-	20-	25-	35-	45-	55-	65-	TOTAL	
												Notifications	Deaths
Notifications, 1917—1922.. Deaths, „ „ „	116 166	701 471	778 203	669 194	474 152	230 82	251 93	164 84	123 67	87 47	58 40	3653	1599
Notifications, 1923 .. Deaths, „ „ „	18 26	124 55	163 23	136 20	86 24	58 17	49 11	41 15	29 16	21 7	5 7	730	221
Notifications, 1924 .. Deaths, „ „ „	20 24	127 82	128 17	102 23	91 27	49 18	49 13	25 7	14 10	7 6	11 2	623	229
Notifications, 1925 .. Deaths, „ „ „	13 16	129 55	139 22	113 13	79 16	37 12	44 16	24 8	27 14	10 10	7 2	622	184
Notifications, 1926 .. Deaths, „ „ „	17 15	86 45	82 20	81 18	63 16	38 12	38 15	23 13	23 8	6 5	6 3	463	170
Notifications, 1927 .. Deaths, „ „ „	11 9	96 47	107 19	75 14	60 19	47 15	47 16	28 8	15 16	12 5	5 4	503	172
Notifications, 1928 .. Deaths, „ „ „	12 11	74 35	112 19	71 15	71 14	46 7	47 19	26 15	18 4	8 6	5 4	490	149
Notifications, 1929 .. Deaths, „ „ „	11 13	65 31	78 17	40 10	55 18	28 17	44 16	27 10	13 3	9 11	5 6	375	152
Notifications, 1930 .. Deaths, „ „ „	17 10	89 49	108 20	63 9	46 23	42 16	41 13	20 11	20 14	16 3	4 6	466	174
Notifications, 1931 .. Deaths, „ „ „	10 10	83 43	95 11	87 9	67 16	40 2	55 16	22 9	23 5	6 6	8 5	496	132
Notifications, 1932 .. Deaths, „ „ „	6 7	69 38	86 20	49 10	55 12	33 7	45 10	30 4	18 8	8 5	3 5	402	126
Total notifications .. Total deaths ..	251 307	1643 951	1876 391	1486 335	1147 337	648 205	710 238	430 184	323 165	192 111	117 84	8823	3308

TABLE 10.
TUBERCULOSIS (NON-PULMONARY).—PRIMARY CASES NOTIFIED DURING 1932—AGE GROUPS AND SITE.

Location of Disease	AGE GROUPS														Totals							
	0—		5—		10—		15—		20—		25—		35—				45—		55—		65—	
	Males	Females	Males	Females	Males	Females	Males	Females	Males	Females	Males	Females	Males	Females			Males	Females	Males	Females	Males	Females
Brain :—Tumour	13	12	4	2	1	1	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
Meninges	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Hydrocephalus	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Glands :—Cervical	8	12	20	19	10	12	8	8	5	7	9	3	6	2	1	..	3	1	..	..	76
Mesenteric	..	..	5	3	1	1	1	..	..	1	..	..	1	..	..	..	..	..	..	..	5
Axillary	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1
Inguinal	..	1	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	2
Tuberculous Peritonitis	2	1	4	2	..	3	2	2	2	3	3	1	1	..	1	..	..	..	..	..	15
Tuberculosis of Abdomen	4	1	7	1	4	1	2	2	1	..	1	1	..	..	..	..	..	..	..	..	6
" of Breast	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1
" of Intestines	..	1	..	..	..	..	2	2	..	..	..	..	..	..	..	1	..	..	..	..	3
Joints :—Spine	1	3	3	2	1	1	2	2	2	3	4	2	4	2	..	..	..	1	..	..	15
Hip	..	2	5	..	3	2	2	1	4	1	..	4	3	..	..	..	..	1	..	..	11
Elbow	..	..	2	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..
Ankle	..	..	..	..	..	..	..	..	..	1	..	1	..	..	..	..	..	..	..	..	..
Wrist	..	1	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	1
Shoulder	..	..	..	..	..	..	..	2	..	..	..	..	..	1	..	..	..	..	..	..	1
Knee	4	2	4	..	..	1	..	..	1	..	..	1	..	..	..	..	..	..	..	..	5
Bones :—Various	4	3	..	..	..	1	4	4	..	1	1	1	1	..	..	..	..	..	..	..	11
Tuberculosis of Skin	..	..	..	3	..	4	2	5	1	3	1	1	3	2	2	4	..	1	1	1	24
General Tuberculosis	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	1
Special Organs :—Ear	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Bladder, etc.	..	..	..	..	1	..	3	..	2	2	1	1	2	1	2	2	..	..	..	..	..
Kidney	..	..	..	..	..	..	2	..	..	..	1	2	..	1	..	..	..	..	..	..	2
Testicle, etc.	..	..	..	..	..	..	..	2	..	..	..	2	..	1	..	..	..	..	..	..	..
Muscles, etc.	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Rectum	..	..	..	..	..	..	..	..	..	2	..	..	..	..	..	..	..	..	..	..	..
Unclassified	..	..	..	..	..	..	..	..	..	..	1	..	1	..	..	..	..	..	..	..	3
Totals	36	39	54	32	21	28	26	29	11	22	21	24	17	13	9	9	5	3	1	2	201	

TABLE II.—STATISTICS RELATING TO THE NOTIFICATION OF TUBERCULOSIS.

	1932	1931	1930	1929	1928	1927	1926	1925	1924	1923	1922	1921	1920	1919	1914 to 1918	1899 Sept. 1st to 1913 Dec. 31st	Total
Cases Visited and Registered—																	
Males ..	828	975	1014	1058	1106	1173	1100	1232	1204	1277	1324	1285	1371	1288	9607	<i>Phthisis only</i> 14170	40012
Females ..	723	806	806	809	919	866	872	937	1032	1023	1024	928	923	974	7295	8854	28791
Totals	1551	1781	1820	1867	2025	2039	1972	2169	2236	2300	2348	2213	2294	2262	16902	23024	68803
Houses Disinfected—																	
1. By Corporation—																	
(a) With solution of chlorinated lime only .. .. .	..	..	..	..	..	..	..	..	..	..	997	2133	2082	2507	7863	9015	24597
(b) With lime solution only .. .. .	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	126	126
(c) * By Esmarch's method and solution of chlorinated lime	2991	3224	3115	2934	2693	2083	1635	1332	1571	1607	717	..	..	..	7416	17232	29875
(d) † By fumigating lamp .. .. .	..	..	..	..	..	..	..	128	..	..	..	..	..	..	..	..	18803
Totals	2991	3224	3115	2934	2693	2083	1635	1460	1571	1607	1714	2133	2082	2507	15279	26373	73401
2. By Tenants—																	
* Esmarch's method or chlorinated lime, etc.	5802	6342	7032	7192	6868	7338	6967	6392	5647	5885	6268	6157	4891	4633	17633	36919	141966
Totals	8793	9566	10147	10126	9561	9421	8602	7852	7218	7492	7982	8290	6973	7140	32912	63292	215367
Specimens of Sputum examined—																	
Positive	649	408	360	392	360	348	347	325	391	558	528	534	437	305	3420	1705	16067
Negative	3589	2236	2039	1698	1548	1573	1363	1415	1419	1753	1946	1585	1729	1342	8117	12176	45528
Totals	4238	2644	2399	2090	1908	1921	1710	1740	1810	2311	2474	2119	2166	1647	11537	18881	61595
Cases admitted to Hospital and Sanatoria	2038	2275	2033	1919	1948	2062	1844	2027	2077	1942	2052	2139	2153	2035	11230	22669	62443
Notified from Common Lodging-houses	44	45	62	71	62	56	53	76	65	84	80	102	115	80	927	3109	5031
Number of cases under observation ..	9441	9759	10060	10197	10494	10586	10680	10379	9949	9561	9258	8606	7990	7318	31367	33702 approx.	..

* Esmarch's method resumed in August, 1922, after suspension due to Food Control Order.

† Method commenced on 1st December, 1925.

TABLE A.—RETURN SHOWING THE WORK OF THE CLINIC DURING THE YEAR 1932.

Diagnosis	Pulmonary			Non-Pulmonary			Total	
	Adults		Children		Adults		Children	
	M.	F.	M.	F.	M.	F.	M.	F.
A.—New cases examined during the year (excluding contacts)—								
(a) Definitely tuberculous	492	406	28	32	66	69	77	71
(b) Diagnosis not completed .. .. .	..	..	..	..	..	..	..	..
(c) Non-tuberculous .. .. .	..	..	..	..	..	..	..	..
B.—Contacts examined during the year—								
(a) Definitely tuberculous	14	19	5	8	3	2	2	..
(b) Diagnosis not completed .. .. .	..	..	..	..	..	..	..	..
(c) Non-tuberculous .. .. .	..	..	..	..	..	..	..	..
C.—Cases written off the Dispensary Register as—								
(a) Recovered	145	126	17	22	58	80	44	38
(b) Non-tuberculous .. .. .	..	..	..	..	..	..	..	..
D.—Number of persons on Dispensary Register on December 31st—								
(a) Definitely tuberculous	2,653	1,945	239	206	538	599	452	338
(b) Diagnosis not completed .. .. .	..	..	..	..	..	..	..	..

Total number of cases of Tuberculosis who received Treatment from the Clinic 788

Total number of attendances at the Clinic.. 19,948

TABLE B.

INSURED CASES APPLYING FOR TREATMENT FOR THE YEARS, 1914-1932.

	Males	Females	Total
1914	730	321	1,051
1915	572	315	887
1916	747	316	1,063
1917	728	359	1,087
1918	642	261	903
1919	630	255	885
1920	645	250	895
1921	615	255	870
1922	543	265	808
1923	539	291	830
1924	597	371	968
1925	610	327	937
1926	562	368	930
1927	555	296	851
1928	612	372	984
1929	610	376	986
1930	551	352	903
1931	555	360	915
1932	451	323	774

Cases of discharged soldiers referred for treatment—214.

Number of patients who had so far recovered that no signs of active disease were found: Insured—335; Uninsured—296.

Contacts examined at their homes and at the Dispensary—995; of these, definite signs of tuberculosis were found in 53.

Grants of food were made in 3,854 instances to 656 families, and 31 grants of clothing were supplied to 29 patients in hospital and sanatoria to enable them to derive full benefit from treatment.

Special visits to the number of 14,362 have been paid by the Tuberculosis Nurses and 598 visits by the Clinical Nurse who attends to domiciliary patients requiring surgical dressings and nursing care.

TABLE C.—INSURED CASES TREATED IN 1932.

Residential	1,368
Tuberculosis Clinic	113
Domiciliary	2,330
Total	<u>3,811</u>

ANALYSIS OF CASES TREATED.

TABLE I.—*Residential (Insured).*

INSTITUTION	Total Cases Treated		Discharged from Institutions		Died	* Residential Treatment discontinued in other cases	Still under Residential Treatment on 1st Jan., 1933
	Males	Females	Improved	Without Improvement			
	(1)	(1)	(2)	(3)	(4)	(5)	(6)
PULMONARY							
Baguley	427	213	127 42	60 44	84 40	4 ..	152 87
Crossley	70	191	40 112	12 15	.. 2	4 5	14 57
Abergele	105	20	57 9	11 1	3 ..	1 ..	33 10
Barrowmore	55	..	25 ..	3 ..	.. ..	.. ..	27 ..
Frimley	2	..	.. ..	.. ..	.. ..	.. ..	2 ..
Withington	113	99	41 39	18 11	24 26	.. ..	30 23
Total Pulmonary	772	523	492	175	179	14	435
NON-PULMONARY							
Manchester Royal Infirmary ..	15	14	12 14	2 ..	.. ..	.. ..	1 ..
Skin Hospital	2	4	2 4	....	....	....	....
Ancoats Hospital .. .. .	..	..	....	....	....	....	....
Shropshire Orthopædic Hospital	11	8	8 2	.. ..	.. ..	.. ..	3 6
Withington	13	6	2 2	1 1	1 1	.. ..	9 2
Total Non-pulmonary ..	41	32	46	4	2	..	21
TOTAL—ALL FORMS	813	555	538	179	181	14	456

* The figures in column (5) relate to cases as to the progress of which no definite report is available for various reasons—*e.g.*, the withdrawal from the Institution of the insured persons themselves before the expiration of the period for which they were nominated for the treatment.

TABLE II.—*Residential (Uninsured).*

INSTITUTION	Total Cases Treated			Discharged from Institutions		Died (4)	* Residential Treatment discontinued in other cases (5)	Still under Residential Treatment on 1st Jan., 1933 (6)
	Males	Females (1)	Children	Improved (2)	Without Improve- ment (3)			
			PULM	ONARY				
Baguley	93	93	..	29 22 ..	13 15 ..	19 19 ..	1 1 ..	31 36 ..
Crossley	18	61	..	10 37 ..	2 8 ..	.. .. ..	2 2 ..	4 14 ..
Abergele	19	3	89	11 2 21	2 .. 1	.. .. 2	.. .. 2	6 1 63
Barrowmore	16	..	..	6	4	1 .. ..	.. .. ..	5
Frimley	3	..	..	2 .. ..	.. .. ..	.. .. ..	.. .. ..	1
Withington	413	183	..	124 61 ..	114 42 ..	119 55 ..	.. .. ..	56 25 ..
Booth Hall .. ..	..	..	85	.. .. 38	.. .. 13	.. .. 15	.. .. ..	.. .. 19
Crumpsall	6	..	..	.. .. ..	.. .. ..	.. .. ..	6....	......
Total Pulmonary	568	340	174	363	214	230	14	261
			NON-PULMONARY					
Abergele .. .. .	..	..	153	.. .. 15	.. .. 3	.. .. 2	.. .. 1	.. .. 132
Manchester Royal Infirmary	4	10	8	2 10 7	1 .. ..	.. .. ..	.. .. ..	1 .. 1
Skin Hospital .. ..	..	2	10	.. 2 10	......	......	......	......
Ancoats Hospital ..	..	..	3	.. .. 1	.. .. ..	.. .. ..	.. .. ..	.. .. 2
Shropshire Orthopaedic Hospital	4	5	..	1 4 ..	.. .. ..	.. 1 ..	.. .. ..	3
Withington	13	10	..	4 4 ..	4 3 ..	2 2 ..	.. .. ..	3 1 ..
Booth Hall .. ..	..	..	144	.. .. 61	.. .. 21	.. .. 32	.. .. ..	.. .. 30
Crumpsall	23	13	..	.. .. ..	8 7 ..	2 3 ..	.. .. ..	13 3 ..
Total Non-Pulmonary	44	40	318	121	47	44	1	189
Total—ALL FORMS ..	612	380	492	484	261	274	15	450

* The figures in column (5) relate to cases of which no definite report is available for various reasons—*e.g.*, the withdrawal from the Institution of the persons themselves before the expiration of the period for which they were nominated for the treatment.

The following table summarises the non-pulmonary cases treated at various Institutions :—

Tuberculosis of :—

Bones and Joints	.. .. .	251
Glands	.. .. .	100
Genito Urinary Tract	.. .. .	16
Abdomen	.. .. .	82

Skin—

1. Lupus Vulgaris	.. .. .	159
2. Toxi Tuberculids	.. .. .	2
3. Bazins Disease	.. .. .	15
4. Tuberculous Ulceration of Skin	.. .. .	22
Fistula	.. .. .	2
Soft Palate	.. .. .	1

TABLES SHOWING AFTER HISTORY OF ARRESTED CASES (INSURED).
1922.

No Tubercle Bacilli found.

Tubercle Bacilli found.

Stage	Sex	Number of Cases taken off Register	Number known to be still living at end of 1932	Lost sight of	Died	Sex	Number of Cases taken off Register	Number known to be still living at end of 1932	Lost sight of	Died
I.	M	43	23	12	8	M	13	10	..	3
	F	17	7	6	4	F	4	2	2	..
II.	M	21	12	4	5	M	22	10	7	5
	F	13	8	4	1	F	9	5	3	1
III.	M	9	5	2	2	M	3	1	2	..
	F	3	1	1	1	F	..	..	..	..
	M & F	106	56	29	21	M & F	51	28	14	9

1923.

I.	M	21	10	6	5	M	18	10	2	6
	F	16	10	3	3	F	2	..	1	1
II.	M	20	13	5	2	M	3	1	..	2
	F	4	2	1	1	F	6	2	2	2
III.	M	4	2	..	2	M	6	2	1	3
	F	2	2	..	..	F	1	..	..	1
	M & F	67	39	15	13	M & F	36	15	6	15

TABLES SHOWING AFTER HISTORY OF ARRESTED CASES (INSURED)—continued
1924.

No Tubercle Bacilli found.						Tubercle Bacilli found.				
Stage	Sex	Number of Cases taken off Register	Number known to be still living at end of 1932	Lost sight of	Died	Sex	Number of Cases taken off Register	Number known to be still living at end of 1932	Lost sight of	Died
I.	M	56	33	14	9	M	17	10	5	2
	F	24	16	5	3	F	3	3	..	..
II.	M	35	25	3	7	M	18	7	5	6
	F	19	13	2	4	F	2	2	..	..
III.	M	13	6	1	6	M	7	5	1	1
	F	9	7	1	1	F	3	2	1	..
	M & F	156	100	26	30	M & F	50	29	12	9

1925

I.	M	30	21	8	1	M	19	11	2	6
	F	18	14	4	..	F	6	3	2	1
II.	M	30	18	10	2	M	13	9	1	3
	F	12	10	1	1	F	8	3	3	2
III.	M	7	4	1	2	M	4	2	..	2
	F	5	3	2	..	F	2	..	1	1
	M & F	102	70	26	6	M & F	52	28	9	15

1926.

I.	M	29	21	5	3	M	11	9	2	..
	F	22	13	9	..	F	4	2	2	..
II.	M	20	16	2	2	M	10	4	5	1
	F	7	5	2	..	F	2	2	..	..
III.	M	10	7	1	2	M	4	2	..	2
	F	2	2	..	..	F	..	..	..	..
	M & F	90	64	19	7	M & F	31	19	9	3

1927.

I.	M	23	17	3	3	M	6	5	..	1
	F	26	19	5	2	F	1	1	..	..
II.	M	13	10	..	3	M	14	10	4	..
	F	7	7	..	..	F	5	4	..	1
III.	M	6	5	..	1	M	3	3	..	..
	F	1	1	..	..	F	1	1	..	..
	M & F	76	59	8	9	M & F	30	24	4	2

TABLES SHOWING AFTER HISTORY OF ARRESTED CASES (INSURED)—continued

1928.

*No Tubercle Bacilli found.**Tubercle Bacilli found.*

Stage	Sex	Number of cases taken off Register	Number known to be still living at end of 1932	Lost sight of	Died	Sex	Number of Cases taken off Register	Number known to be still living at end of 1932	Lost sight of	Died
I.	M	33	29	2	2	M	10	7	1	2
	F	28	21	6	1	F	6	5	..	1
II.	M	28	21	3	4	M	6	4	2	..
	F	15	13	2	..	F	2	2	..	..
III.	M	12	11	1	..	M	3	2	..	1
	F	3	2	..	1	F	3	3	..	..
	M & F	119	97	14	8	M & F	30	23	3	4

1929.

I.	M	33	27	4	2	M	8	7	..	1
	F	37	35	1	1	F	4	4	..	..
II.	M	24	20	1	3	M	10	7	2	1
	F	14	13	1	..	F	4	4	..	..
III.	M	9	6	2	1	M	5	3	1	1
	F	4	4	..	..	F	..	..	..	..
	M & F	121	105	9	7	M & F	31	25	3	3

1930.

I.	M	81	73	5	3	M	24	22	1	1
	F	45	39	5	1	F	4	2	2	..
II.	M	44	38	3	3	M	24	18	2	4
	F	22	19	3	..	F	13	11	1	1
III.	M	15	13	..	2	M	4	3	1	..
	F	7	7	..	..	F	2	1	1	..
	M & F	214	189	16	9	M & F	71	57	8	6

1931.

I.	M	76	68	5	3	M	25	25	..	..
	F	57	49	6	2	F	5	5	..	..
II.	M	48	39	4	5	M	28	24	2	2
	F	14	13	1	..	F	7	7	..	..
III.	M	9	8	1	..	M	5	5	..	..
	F	2	2	..	..	F	1	1	..	..
	M & F	206	179	17	10	M & F	71	67	2	2

CROSSLEY AND BAGULEY SANATORIA.

Conditions relative to patients treated in the Crossley Sanatorium and Baguley Sanatorium during the last ten years are set forth in the following tables, Baguley Sanatorium is in the main an institution for advanced cases.

In addition to these, however, cases for observation are sent, and these may, if suitable, be transferred later to the other sanatoria at Delamere and Abergele.

The earlier the stage of the disease at which a patient can be given sanatorium treatment the greater the prospect of permanent arrest. Properly selected cases have their best chance of arrest in the shortest time by intelligently carried-out sanatorium treatment ; moreover, they learn restraint, discipline and an ordered way of life, which are essential for maintenance of health and prevent relapses.

TABLE IV.
CROSSLEY SANATORIUM.
Males.

Year	No. of new cases	Position at the end of 1932				No. of Re-admissions These are additional to the cases in Column 2 and are given to show the number of beds occupied
		Known to be still living	Died in the Sanatorium	Died elsewhere	Lost sight of	
(1)	(2)	(3)	(4)	(5)	(6)	(7)
1923 ..	125	38	1	68	18	29
1924 ..	114	39	2	56	17	32
1925 ..	131	42	3	66	20	25
1926 ..	107	45	..	49	13	44
1927 ..	112	56	..	42	14	39
1928 ..	122	62	..	48	12	27
1929 ..	97	62	..	33	2	53
1930 ..	88	69	..	16	3	35
1931 ..	84	65	..	9	10	23
1932 ..	38	36	..	2	..	26
Total ..	1018	514	6	389	109	333

Females.

Year	No. of new cases	Position at the end of 1932				No. of Re-admissions These are additional to the cases in Column 2 and are given to show the number of beds occupied
		Known to be still living	Died in the Sanatorium	Died elsewhere	Lost sight of	
(1)	(2)	(3)	(4)	(5)	(6)	(7)
1923 ..	121	36	1	68	16	24
1924 ..	135	39	1	61	34	25
1925 ..	111	33	1	51	26	33
1926 ..	127	54	..	50	23	32
1927 ..	140	69	..	48	23	24
1928 ..	126	64	..	47	15	33
1929 ..	139	78	..	37	24	22
1930 ..	137	105	1	24	7	41
1931 ..	136	107	1	19	9	49
1932 ..	135	131	1	2	1	54
Total ..	1307	716	6	407	178	337

TABLE V.
BAGULEY SANATORIUM.
Males.

Year	No. of new cases	Position at the end of 1932				No. of Re-admissions
		Known to be still living	Died in the Sanatorium	Died elsewhere	Lost sight of	These are additional to the cases in Column 2 and are given to show the number of beds occupied
(1)	(2)	(3)	(4)	(5)	(6)	(7)
1923 ..	365	46	117	163	39	151
1924 ..	363	46	118	177	22	106
1925 ..	326	55	123	126	22	88
1926 ..	297	55	105	108	29	78
1927 ..	307	83	98	104	22	84
1928 ..	361	97	107	134	23	88
1929 ..	355	98	121	115	21	83
1930 ..	297	102	103	83	9	83
1931 ..	264	154	71	38	1	87
1932 ..	263	201	46	15	1	81
Total ..	3198	937	1009	1063	189	929

Females.

Year	No. of new cases	Position at the end of 1932				No. of Re-admissions
		Known to be still living	Died in the Sanatorium	Died elsewhere	Lost sight of	These are additional to the cases in Column 2 and are given to show the number of beds occupied
(1)	(2)	(3)	(4)	(5)	(6)	(7)
1923 ..	188	15	68	85	20	38
1924 ..	225	37	65	111	12	48
1925 ..	199	27	71	75	26	35
1926 ..	216	38	81	78	19	48
1927 ..	185	32	58	80	15	50
1928 ..	168	53	56	50	9	38
1929 ..	207	69	79	53	6	59
1930 ..	182	57	72	51	2	27
1931 ..	146	73	44	28	1	28
1932 ..	157	117	30	9	1	21
Total ..	1873	518	624	620	111	392

HOSPITALS.

INSTITUTIONS.

HOMES AND OTHER SPECIAL
ESTABLISHMENTS.

CONVALESCENT HOME WORK.

DISTRICT MEDICAL SERVICE.

PUBLIC VACCINATION.

RECOVERY OF HOSPITAL COSTS.

HOSPITAL AND INSTITUTION SERVICES, 1932.

The work of the City hospitals and institutions was carried on smoothly during the year under review. The number of beds under the direct control of the Council remained the same as in 1931, and their distribution was not altered during 1932. The number of beds in convalescent homes retained by the Council was reduced during 1932 from 280 to 180. Constant attention has been given to the need for economy owing to the prevailing general financial stringency and every endeavour made to reduce expenditure without seriously impairing the efficiency of these important services. Detailed careful supervision of expenditure is being exercised. This has been greatly facilitated by the appointment and work of the Lay Administrative Officer.

Treatment of Cancer by Radium.

An item of considerable interest in 1932 was the inauguration in March of that year of a scheme in which radium was made available for the treatment of cancer patients in the Crumpsall and Withington Hospitals. By agreement with the Manchester and District Radium Institute, all cases of cancer in these hospitals are examined by a radium therapist from the Institute, and where it is considered that the disease is likely to respond to treatment by radium, arrangements are made for such treatment to be given. The radium therapist attends regularly at the City hospitals on appointed days for the examination and treatment of patients. Cases of uterine carcinoma are not treated in the City hospitals, but are removed to the Radium Institute for treatment. Patients in whom treatment is by "mould" attend as out-patients at the Radium Institute, being conveyed to and from the Institute by ambulance. The patients actually treated by the therapist in the City hospitals are those who do not come within the above-mentioned two categories.

Reorganisation of Hospital Visiting.

An important happening during 1932 was the complete reorganisation of the system regulating the visiting of patients in the transferred hospitals and institutions by their relatives and friends. This reorganisation was approved by the City Council in May, 1932, and the new scheme became operative on June 1st, 1932. The new arrangements were devised entirely in the interests of the sick persons themselves. More time is given for professional attendance upon patients by the medical and nursing staffs. The number of visits which can be paid to the sick by immediate relatives is increased. Greater quietude is maintained in the wards and the general conditions thereby made more approximate to those of a private sick room. Experience has shown that all of these objects have been attained.

The essential administrative differences between the new system and the old one are as follows :—

- (1) Only three days in the week are visiting days, whereas formerly every day (except Sunday) was a visiting day.

- (2) Visitors may see the patient in whom they are interested three times a week, whereas formerly only one visit could be paid by any one person in any one week.
- (3) Visiting is by means of an official card issued from the hospital, instead of, as previously, by passes issued by members of the City Council and certain officials. Only three cards are issued, and the patient himself nominates the persons who are to receive them. Under the old system the number of passes was not limited, and the patient had no controlling voice in their issue.

The new scheme, with some modifications, was also applied to the institutions which are run on behalf of the Public Assistance Committee. There is no doubt that the new scheme has operated with uniformly good results and no serious criticisms of its working have been received. Opportunity was later taken to put "special" visiting, *i.e.*, visiting by representatives of religious and social organisations, on a systematised basis, and the results of this action have also been satisfactory.

Work of Modernisation and Improvement.

All-round modernisation continues to be carried out, and the following are some of the special works which were either authorised or completed during the year :—

Ward refrigerators were installed in pavilions at Crumpsall and Withington Hospitals in accordance with the policy referred to in last year's report.

The Booth Hall central kitchen cooking equipment was electrified—the resultant saving on fuel costs being estimated at £1,000 per annum.

A new electric passenger bed lift was installed at Withington Hospital.

Laundry machinery at Crumpsall Institution was modernised.

Electricity for lighting purposes was introduced in place of gas at Rose Hill Convalescent Home.

The special isolation ward at Monsall Hospital was refitted with up-to-date sanitary and sterilising equipment.

Pen-y-coed—the cottage formerly used for the treatment of children—was reconstructed to provide a residence for the head teacher of the Sanatorium school.

The introduction of talking film apparatus at Langho Colony and Baguley Sanatorium was approved. At the time of compilation of this report the apparatus is completely installed at each place and has already proved itself a great asset in the life of the patients.

The new combined chapel and recreation room at Baguley was completed in 1932.

The alterations and additions to the mental wards at Crumpsall Institution, commenced in 1931, were completed.

Work in contemplation.

The new operating theatre at Withington Hospital, referred to in previous reports, will be provided during 1933-34. Plans have been approved by the Committee. Details of the new provision will be given in the next report.

Proposals for a new mortuary at this hospital have been approved, and it is anticipated that this much-needed accommodation will shortly be available. The next report will contain details of this provision also.

Owing to the difficulty of finding a suitable site no progress has been made towards the provision of the proposed new smallpox hospital. At the beginning of the year the Council, on the recommendation of the Special Expenditure Committee, decided upon certain restrictions upon the financial side of the scheme. Consultation with neighbouring authorities will also be necessary to determine future action.

Staff.

The staff at the hospitals and institutions continue to render good service. The year is specially noteworthy in that it witnessed the last complete year of service of two chief officers whose connection with the late Board of Guardians extended over many years. These two officers were Dr. R. W. Marsden (Medical Superintendent of Crumpsall Hospital), and Mrs. C. J. Firth (Matron and Acting Master of Withington Institution). The actual termination of duties in both instances occurred early in 1933. Dr. Marsden's retirement was due to his attainment of the age-limit of service under the superannuation scheme. Mrs. Firth's was due to ill-health. The Committee, by resolution, formally recorded the high esteem in which both these officers are held and an appreciation of their valuable and prolonged services to the City.

Hospital Statistics.

The statistical returns given at the end of this section show in somewhat better detail than hitherto the work done at the hospitals owned by the local health authority. Extensive, however, as they seem, it is quite impossible to obtain a proper appreciation from them of the amount of work—medical, surgical, and nursing—which is thus carried out. Not only is this the case, but reorganisation for the better user of hospital beds is impracticable until more accurate summarised knowledge is available. The Medical Officer of Health has given this subject a great deal of careful thought, and during the current year (1933) a report submitted by him for the organisation of a

completely new method of statistical and medical record of cases has been approved by the City Council; it is hoped that this will be sufficiently in operation to enable him in the next report to show not only the user of the hospitals for different types of disease but the distribution of these diseases and of "hospital" sickness amongst the population of the City. This statistical analysis of cases will provide the information basically necessary for the consideration of any scheme of hospital reorganisation.

Central Costing System and Recording of Stores.

During 1932 much time has been given to the consideration of a central system of stores recording and hospital costing. This will mean a very complete reorganisation of this type of work in connection with the various establishments in the City. The proposed change is, at the time of writing, still under review, but will be given in some detail in the next annual report.

General.

The 1931 report contained statements of the accommodation and services provided at each of the City's hospitals and institutions, and it is not proposed to repeat these details this year. The tables of statistics given at the end of this portion of the report are those given in the annual return to the Ministry of Health (Form Hospital 6). Special reports on the year's work at Monsall Hospital and Baguley and Abergele Sanatoria will be found on pages 119 to 179 of this report.

Recovery of Costs of Hospital Maintenance.

The cost of hospital maintenance is recovered according to the means of the patient or the patient's family. Both the assessment of the capacity to pay and the actual recovery of costs on this basis is effected by the Public Assistance Department. The assessment is based upon the information contained in the Hospital and Public Assistance records of the case and family. During the financial year ending March 31st, 1932, the amount so recovered reached a total of £41,483, which was made up as follows:—

From	Booth Hall	Crumpsall	Langho	Rose Hill	Withington
	£	£	£	£	£
Paying patients at a fixed weekly charge	358	4,500	—	—	8,794
Relatives and patients according to means . .	1,745	10,493	1,151	180	14,262

At the time of compilation of this report, no details of the amounts recovered during the year ended March 31st, 1933, are available.

Convalescent Homes.

The individuals to whom this treatment is accorded are persons who require treatment in convalescent homes or special institutions of a type not provided and maintained by the City Council itself. Convalescent home treatment is accorded—

- (a) On the recommendation of the consultants of the municipal hospitals.
- (b) To cases recommended for such treatment by the district medical officers. Children's cases are referred to Dr. W. A. Ramsay, Medical Superintendent, Crumpsall Hospital, who is specifically appointed for this duty. Each child is examined by him and the final recommendation made by him.

The transport of the cases is made by rail. Children are accompanied both to and from the convalescent homes by an officer of the department.

The following statement shows the average numbers of patients maintained in the convalescent homes used by the Corporation during the year ended 31st December, 1932 :—

Name of Convalescent Home	Average Number Maintained
Dr. Garrett Memorial Home, Conway	155
David Lewis Colony for Epileptics, Alderley Edge	2
St. Elizabeth's Home for Epileptics, Much Hadham, Herts. ..	1
Royal Alexandra Hospital, Rhyl	1
Hospital of St. John of God, Scorton, near Darlington	2
Children's Convalescent Home, West Kirby	10
Lear Home of Recovery, West Kirby	1
White Oak School, Swanley, Kent	2
Total average number	<u>174</u>

Public Vaccination.

The number of public vaccinators is 25, and there are four vaccination officers.

The percentage of infants successfully vaccinated in Manchester—51·7 per cent. in 1931—is usually considerably higher than in England and Wales as a whole. The percentages for each of the five years 1926–1930 were :—

	England and Wales	Manchester
1926	44·8	60·0
1927	44·9	59·5
1928	42·6	55·0
1929	39·9	52·8
1930	40·1	52·5

The following is a summary of the return made to the Ministry of Health of vaccinations for the year *1931 :—

	Total	Percentage
Number of successful vaccinations.. .. .	6,840	51·75
Number insusceptible of vaccination	50	0·38
Number of exemptions	3,956	29·93
Number died unvaccinated	841	6·36
Number not traceable : removed to other districts or postponed	1,529	11·58
Number of children born	13,216	100·00

* Returns for vaccination are always for the year preceding the year covered by this report. This is unavoidable, since the period of four months from the date of birth is allowed for exemption purposes.

District Medical Service.

There are 26 medical relief districts in the City with 26 district medical officers—one to each district. The estimated number of patients seen by these medical officers in 1932 was 37,939. Owing to changes in personnel during the year it has not been possible in every case to obtain accurate figures, but the number given may be taken as accurate for all practical purposes.

The following figures show that the work of this section of public medical service continues to show rapid increase :—

Year	Number of Patients seen
1919	5,948
1925	15,582
1930	22,163
1931	30,184
1932	37,939

In September the Public Health Committee received and approved of the report of a special Sub-Committee appointed to investigate inequalities and anomalies existing in the system of district medical service. The Sub-Committee's report is too long to reproduce *in extenso* here, but it may be briefly stated that the Sub-Committee were satisfied that the existing system is essentially unsatisfactory, that it does not operate to the full advantage of the patient, and that it does definitely operate to the disadvantage of the majority of the medical practitioners who serve as district medical officers. The report recommended the abolition of the present system and the substitution of a medical service on lines comparable with the National Health Insurance system.

The report is still in the Committee stage.

TABLE SHOWING STAFFING AND NUMBER OF BEDS PROVIDED
AT THE CITY HOSPITALS, 1932.

	GENERAL HOSPITALS			SPECIAL ESTABLISHMENTS			INSTITUTIONS	
	Crumpsall Hospital	Withington Hospital	Rooth Hall Hospital	Rose Hill Convalescent Home	Langhe Colony	Swinton Home	Crumpsall Institution (Mental Wards)	Withington Institution (Aged and Infirm Wards)
1. Number of Resident Medical Staff	5	6	6	..	1	..	..	..
2. Number of visiting staff ..	8	14	9	1	..	1	..	..
3. Specialist services supplied*	A, B, C, D, E, F, G, H, I, J, K, M	A, B, C, D, E, F, G, H, I, J, K, L, M	A, D, E, F, G, H, I, J, K	..	..	..	..	..
4. Number of								
(a) Trained nurses	88	98	49	3	1	3	..	3
(b) Probationer nurses ..	150	172	102	..	..	..	..	..
(c) Assistant nurses	51	11	22	..	..	..	..	..
(d) Male attendants	15	7	12	..	30	..	..	..
(e) Attendant nurses ..	..	..	..	..	34	..	..	48
(f) Superintendents .. ..	..	..	..	..	..	..	2	..
(g) Assistant Superintendents	..	..	..	..	..	..	4	..
(h) Charge attendants ..	..	..	..	..	..	..	8	..
(i) Mental nurses .. ..	..	..	..	..	..	..	32	..
(k) Mental attendants ..	..	..	..	..	..	23	55	..
TOTAL	304	288	185	3	65	26	101	51
5. Total number of beds provided for sick and maternity cases at 31st December, 1932—								
(a) For men	677	501	..	..	288	..	333	190
(b) For women	735	693	..	..	330	..	342	190
(c) For children (under 16 years of age), excluding cots in maternity wards ‡..	4	11	760	123	..	144	..	..
TOTAL	1,461	1,205	760	123	618	144	675	380

* Special services supplied—

A SurgeonB PhysicianC Gynaecologist and ObstetricianD Ophthalmic SurgeonE Orthopaedic SurgeonF Aurist and LaryngologistG Children's SpecialistH PathologistI DermatologistJ RadiologistK DentistL Tuberculosis SpecialistM Radium Therapist

‡ The inclusion of cots in maternity wards would increase the total number of beds in Crumpsall and Withington Hospitals by 82 and 69 respectively.

TABLE SHOWING THE CLASSIFICATION OF ACCOMMODATION
AND THE NUMBER OF BEDS OCCUPIED ON 31ST DECEMBER, 1932—continued

CLASSIFICATION OF WARDS	GENERAL HOSPITALS			SPECIAL ESTABLISHMENTS			INSTITUTIONS		BEDS Provided
	Crumpsall Hospital	Withington Hospital	Booth Hall Hospital	Rose Hill Convalescent Home	Langho Colony	Swinton Home	Crumpsall Institution (Mental Wards)	Withington Institution (Aged and Infirm Wards)	
6. MATERNITY.									
WARDS—Number of ..	6	4	..	..	..	..	..	..
BEDS—									
Provided	114	92	..	..	..	..	..	..	206
Occupied	65	77	..	..	..	..	..	..
7. TUBERCULOSIS.									
WARDS—Number of ..	..	14	..	..	..	..	..	..
BEDS—									
Men—Provided .. ..	..	126	..	..	..	..	..	..	126
Occupied .. ..	..	87	..	..	..	..	..	..
Women—Provided ..	..	60	..	..	..	..	..	..	60
Occupied .. ..	..	55	..	..	..	..	..	..
TOTAL—Provided ..	..	186	..	..	..	..	..	..	186
Occupied .. ..	..	142	..	..	..	..	..	..
8. MENTAL WARDS.									
BEDS—									
Men—Provided .. ..	..	..	..	..	..	..	333	..	333
Occupied .. ..	..	..	..	..	..	..	340	..	
Women—Provided ..	..	..	..	..	..	..	342	..	342
Occupied .. ..	..	..	..	..	..	..	315	..	
Children— Occupied ..	..	..	..	..	..	..	6	..	
TOTAL—Provided ..	..	..	..	..	..	..	675	..	675
Occupied .. ..	..	..	..	..	..	..	661	..	
9. EPILEPTICS.									
HOMES—Number of ..	..	..	..	..	11	..	..	..
BEDS—									
Men—Provided .. ..	..	..	..	..	288	..	..	..	288
Occupied .. ..	..	..	..	..	288	..	..	..
Women—Provided ..	..	..	..	..	330	..	..	..	330
Occupied .. ..	..	..	..	..	330	..	..	..
TOTAL—Provided ..	..	..	..	..	618	..	..	..	618
Occupied .. ..	..	..	..	..	618	..	..	..

STATISTICS RELATING TO THE YEAR ENDED 31ST DECEMBER, 1932.

IN-PATIENTS	GENERAL HOSPITALS			SPECIAL ESTABLISHMENTS			INSTITUTIONS		TOTALS
	Crumpsall Hospital	Withington Hospital	Booth Hall Hospital	Rose Hill Convalescent Home	Langho Colony	Swinton Home	Crumpsall Institution (Mental Wards)	Withington Institution (Aged and Infirm Wards)	
1. Total number of admissions (including infants born in hospital)	11,474	12,068	5,347	790	62	46	978	497	31,262
2. Number of women confined in hospital	2,038	1,594	..	..	..	..	..	..	3,632
3. Number of live births ..	1,710	1,533	..	..	..	..	..	..	3,243
4. Number of still-births ..	126	82	..	..	..	..	..	..	208
5. Number of deaths among the newly-born (i.e., under four weeks of age)*	39	67	..	..	..	..	..	..	106
6. Total number of deaths among children under one year (including those given under five)	51	70	206	..	..	..	..	..	327
7. Number of maternal deaths among women confined in hospital	11	6	..	..	..	..	..	..	17
8. Total number of deaths ..	1,136	1,616	492	1	16	6	225	85	3,577
9. Total number of discharges (including infants born in hospital)	10,479	10,437	4,913	793	55	45	727	410	27,859
10. Duration of stay of patients included in 8 and 9 above— (a) Four weeks or less..	7,973	8,557	3,210	741	5	4	666	30	21,186
(b) Exceeding four but under thirteen weeks	2,771	2,772	1,621	32	9	1	102	114	7,422
(c) Exceeding thirteen weeks	871	724	574	21	57	46	184	351	2,823
11. Number of beds occupied— (a) Average during the year	1,078	989	602	98	620	141	647	356	4,531
(b) Highest	1,208 on 10-3-32	1,027 on 20-2-32	742 on 4-3-32	133 on 7-6-32	629 on 7-1-32	146 on 4-7-32	672 on 10-8-32	376 on 7-3-32	..
(c) Lowest	1,019 on 15-10-32	861 on 25-12-32	489 on 21-8-32	23 on 28-2-32	616 on 16-9-32	127 on 28-11-32	620 on 21-2-32	341 on 18-7-32	..
12. Number of surgical opera- tions under general anæsthetic (excluding dental operations)..	1,257	1,392	2,251	..	..	..	..	..	5,900
13. Number of abdominal sections	344	385	129	..	..	..	..	..	858

* This figure relates only to children born in hospital.

STATISTICS RELATING TO THE YEAR ENDED 31ST DECEMBER, 1932—continued

OUT-PATIENTS	GENERAL HOSPITALS			SPECIAL ESTABLISHMENTS			INSTITUTIONS		TOTALS
	Crumpsall Hospital	Withington Hospital	Booth Hall Hospital	Rose Hill Convalescent Home	Langho Colony	Swinton Home	Crumpsall Institution (Mental Wards)	Withington Institution (Aged and Infirm Wards)	
1. Nature and scope of the out-patient provision for continuation of treatment, emergency treatment, consultations, or otherwise	Massage, Radiant Heat, Diathermy, Electrical Treatment, Insulin, Sunlight, and X-ray Treatment given to cases who have been or may become In-patients		X-ray examination	..	..	..	..	..	..
2. Total number of persons seen in the out-patient department	854	425	..	..	..	..	..	..	1,279
3. Number of these persons who were subsequently admitted for in-patient treatment in the Institution .. .. .	..	19	..	..	..	..	..	..	19
4. Number of these persons who had received in-patient treatment in the Institution	650	421	..	..	..	..	..	..	1,071
5. Total number of attendances in the out-patient department	17,279	8,019	..	..	..	..	..	..	25,298
6. Number of women seen and the total number of attendances at Ante-natal Clinic—									
Women	2,060	1,506	..	..	..	..	..	..	3,566
Attendances	14,139	6,271	..	..	..	..	..	..	20,410

	Crumpsall Hospital		Crumpsall Institution (Mental Wards)		Withington Hospital		Langho Colony		Booth Hall Hospital		Crumpsall Hospital		Crumpsall Institution (Mental Wards)		Withington Hospitals		TOTALS	
	Dis-charged	Died	Dis-charged	Died	Dis-charged	Died	Dis-charged	Died	Dis-charged	Died	Dis-charged	Died	Dis-charged	Died	Dis-charged	Died	Dis-charged	Died
Acute infectious disease	42	2	..	..	7	..	..	..	582	200	7	..	..	..	..	..	638	202
Influenza	300	34	..	..	60	..	..	..	15	5	..	..	..	..	..	..	375	40
Tuberculosis—																		
Pulmonary	92	6	..	..	386	227	..	..	66	16	..	..	..	..	..	..	544	249
Non-pulmonary	15	5	..	..	78	4	..	..	87	33	..	..	..	..	..	..	180	42
Malignant disease	88	20	..	..	225	316	..	..	1	3	..	..	..	..	..	..	314	340
Rheumatism—																		
(1) Acute rheumatism, rheumatic fever, together with sub-acute rheumatism and chorea	118	2	..	..	48	..	..	..	259	7	..	..	..	..	..	..	425	9
(2) Non-articular “rheumatism” of so-called “rheumatism” (muscular rheumatism, fibrositis, lumbago, and sciatica) ..	242	36	..	..	125	..	..	..	4	..	..	..	..	..	..	..	371	36
(3) Chronic arthritis	258	1	..	..	160	..	..	..	10	10	33	..	..	..	..	..	160	..
Venereal disease	3	1	..	..	10	..	..	..	..	..	..	..	..	..	..	..	301	13
Puerperal pyrexia	7	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	13	1
Puerperal fever—																		
(a) Women confined in the hospital .. .. .	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	7	..
(b) Admitted from outside .. .. .	..	..	..	..	4	1	..	..	..	..	..	..	..	..	..	..	4	1
Other diseases and accidents connected with pregnancy and child-birth ..	220	1	..	..	804	..	..	..	..	..	..	..	..	..	..	..	1,024	1
Mental diseases—																		
(a) Senile dementia .. .. .	..	..	..	116	..	..	..	..	..	..	..	..	..	..	..	..	..	116
(b) Other	216	109	543	78	..	..	..	..	16	7	..	7	..	2	..	..	566	87
Senile decay	262	34	177	29	633	32	..	..	190	12	..	..	..	..	2	..	222	117
Accidental injury and violence ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1,264	107
In respect of cases not included above—																		
Diseases of the																		
Nervous system and sense organs ..	274	72	..	..	445	56	..	..	164	10	..	..	..	..	..	..	883	138
Respiratory system	1,068	254	..	..	1,002	196	..	..	578	46	..	..	..	..	4	2	2,652	498
Circulatory system	350	116	..	..	802	473	..	..	49	15	..	..	..	..	6	14	1,207	621
Digestive system	644	50	..	..	994	140	..	..	370	82	..	..	..	..	23	..	2,031	273
Genito-urinary system	836	88	..	..	653	64	..	..	82	6	..	..	..	..	..	..	1,571	159
Skin	826	28	..	..	376	16	..	..	269	8	..	..	..	..	11	1	1,482	53
Other diseases	745	216	..	..	312	8	..	..	2,171	32	114	10	..	..	214	10	3,556	276
Mothers and infants discharged from maternity wards and not included in above figures—																		
Mothers	2,028	10	..	..	1,534	5	..	..	..	..	..	..	..	..	..	..	3,562	15
Infants .. .. .	..	..	..	..	..	..	..	..	..	..	1,691	39	..	..	1,513	43	3,204	82
Epilepsy .. .. .	..	..	..	..	..	..	55	..	..	..	..	..	..	..	..	..	55	9
TOTAL	8,634	1,085	720	223	8,664	1,546	55	16	4,913	492	1,845	51	7	2	1,773	70	26,611	3,485

PATHOLOGICAL LABORATORY, CRUMPSALL HOSPITAL.

SUMMARY OF EXAMINATIONS MADE FROM 1ST JANUARY, 1932, TO
31ST DECEMBER, 1932.

	Crumpsall Hospital	Booth Hall Hospital	Withington Hospital	Total for all Hospitals
Diphtheria test	37	11,871	314	12,222
Sputum tests for tubercle bacilli ..	1,519	336	2,417	4,272
Smears for Gonococcus	1,482	145	270	1,897
Hairs, etc., for ringworm parasites..	Nil.	43	2	45
Pregnancy test (Zondek-Aschheim)	27	2	5	34
Blood—				
Wassermann reaction	1,200	132	411	1,743
Count.. .. .	236	30	161	427
Sugar estimation	522	3	1,313	1,838
Urea estimation	175	41	149	365
Culture	16	11	30	57
Agglutination test.. .. .	37	13	18	68
Urine—				
Microscopical examination	352	134	140	626
Cultural examination	773	174	221	1,168
Chemical examination	97	55	167	319
Fæces—				
Microscopical examination	5	30	50	85
Cultural examination	39	117	20	175
Occult blood	7	Nil.	13	20
Cerebro-spinal fluid—				
Microscopical examination	88	140	45	273
Cultural examination	8	8	5	21
Chemical examination	76	122	39	237
Wassermann reaction	60	19	22	101
Pus—				
Microscopical examination	89	279	128	496
Cultural examination	28	331	116	475
Fractional gastric analysis	7	1	34	42
Exudates, effusions—				
Microscopical examination	41	24	43	108
Cultural examination	3	2	2	7
Tumours	232	47	168	447
Post-mortem examination	71	82	1	154
Milks	6	46	3	55
Vaccines	210	60	17	287
	7,443	14,298	6,324	28,065
Milks, bacteriological examination, from Styal Cottage Homes				16
Diphtheria tests for :—				
Rose Hill Convalescent Home				310
Swinton Home				2
				28,393

MONSALL HOSPITAL.

BY D. SAGE SUTHERLAND, M.D., MEDICAL SUPERINTENDENT.

At the close of the year 1931 437 patients remained in hospital. During 1932 4,251 were admitted. The total number under treatment during the year was 4,688. There were 194 deaths and 4,126 were discharged cured.

368 remained in hospital at the end of the year. The admissions showed an increase on the previous year of 11.

The largest number of cases admitted to hospital was during the month of January, when 418 cases were received. The maximum number of patients in hospital was 477, on February 6th, 8th, and 17th, and the minimum number was 266, on August 27th and 28th, 1932.

The average daily number of patients in hospital for the year was 379·8, as against 397·8 in the year 1931.

The average duration of stay for each patient was 32.2 days, as against 34.9 in 1931.

The fatality rate for all cases under treatment was 4·49 per cent., as compared with 3·44 during 1931.

In 316 cases, or 7·3 per cent., the diagnosis was altered from the certified disease.

SCARLET FEVER.

229 cases remained in hospital at the end of the previous year, and during the year 2,050 were admitted, showing a decrease of 463 on the previous year. The number of discharges was 2,065, and 14 deaths occurred during the year, giving a death rate of 0.68 per cent. During the previous year the death rate was 0.38 per cent.

The average stay in hospital was 36·8 days, showing a reduction of 0·5 days on the previous year. The average number of days in hospital of fatal cases was 21.

The following are the causes of death in the 14 fatal cases of scarlet fever :—

Pneumonia	5
Dysentery (Flexner)	I
Acute enteritis	I
Toxic scarlet fever	2
Peritonitis and meningitis	I
Meningitis (streptococcal)	I
Septic scarlet fever and icterus gravis	I
Septicæmia (streptococcal).. .. .	2

The use of anti-scarlatinal serum has been limited to the more severe types of attack, and has been administered by the intramuscular route.

The complications show a decrease in the occurrence of middle ear disease, otitis media occurring in 8.3 per cent. of cases as against 10 per cent. in the previous year.

Aural Report is given on pages 132 to 137.

SCARLET FEVER RETURN CASES.

The number of cases of scarlet fever discharged from hospital during the year 1932 was 2,065. The number of true return cases for the year was 78, the return case rate being, therefore, 3.8 per cent., as against 4.5 per cent. for 1931.

The average duration of stay of cases giving rise to secondary cases was 38.7 days. The average interval elapsing between the discharge of the primary case from hospital and the onset of the disease in the secondary case was 11.27 days.

Return cases infected in 1st week of primary cases' discharge 35 per cent.

„	„	2nd	„	„	37	„
„	„	3rd	„	„	18	„
„	„	4th	„	„	10	„

7 cases gave rise to 2 return cases each.

64 „ „ „ 1 „ case „

AGE DISTRIBUTION OF INFECTING CASES.

					Discharges	Infecting Cases	Percentage
Under 1 year	..	..	..	.	11	—	—
1—4 years	..	..	..	.	543	23	4.2
5—9 „	..	..	..	..	927	40	4.3
10—14 „	..	..	..	.	346	4	1.2
15—19 „	..	..	..	.	88	1	1.1
20+	..	..	..	..	150	3	2.0
Total	..	..	..	..	2,065	71	3.4

MONTHLY TABLE.

1932	Discharges	Return Cases	Percentage
January	187	10	5·3
February	163	7	4·3
March	183	8	4·4
April	149	8	5·4
May	168	5	3·0
June	154	3	2·0
July	204	2	1·0
August	154	6	3·9
September	144	3	2·1
October	166	10	6·0
November	194	6	3·1
December	199	10	5·0
Total	2,063	78	3·8

Minimum, 1·0 per cent., July. Maximum, 6·0 per cent., October.

The total number of scarlet fever cases receiving scarlatinal antitoxin on admission was 728. 30 cases which were serum treated were responsible for return cases, the return case rate for serum-treated cases is thus 4·1 per cent.

Out of the 71 infecting cases—

- In 48 the tonsils were normal,
- „ 14 „ „ enlarged, and
- „ 9 „ „ very enlarged.

In 76 per cent. no condition was noted after discharge from hospital to which infection could be attributed.

In 11 per cent. desquamation had not been completed.

In the remaining cases the conditions apparently responsible for infection were :—

- Rhinorrhœa 6
- Otorrhœa 2
- Skin condition 1

TOTAL SCARLET FEVER CASES—2,080.

Age Incidence					Number	Percentage
0—5 years	..	..	..	..	562	27·0
5—10	„	..	..	..	932	44·8
10—15	„	..	..	..	346	16·6
15—20	„	..	..	..	89	4·3
20+	..	..	..	..	151	7·3

COMPLICATIONS IN SCARLET FEVER.

Complication					Number	Percentage
Rhinorrhœa in Convalescence..	..	..	..	..	264	12·7
Otorrhœa	..	..	..	..	172	8·3
Nephritis	..	..	..	..	33	1·6
Albuminuria in Convalescence	..	..	..	..	66	3·2
Adenitis and Abscess	..	..	..	..	16	·8
Endocarditis	..	..	..	..	17	·8

ACTIVE IMMUNIZATION AGAINST SCARLET FEVER IN DICK POSITIVE REACTORS
ADMITTED TO HOSPITAL SUFFERING FROM DIPHTHERIA.

Age	Total	+ ve	Percentage + ve	—ve	Completely Immunized	Incompletely Immunized or not Retested on Discharge
0— 1	14	6	42·9	8	1	5
1— 2	26	13	50·0	13	3	10
2— 3	80	44	55·0	36	18	26
3— 4	64	32	50·0	32	20	12
4— 5	68	40	58·8	28	19	21
5—10	378	173	45·8	205	88	85
10—15	185	68	36·8	117	35	33
15—20	46	16	34·8	30	12	4
20+	152	38	25·0	114	13	25
	1013	430	42·4	583	209	. 221

DIPHThERIA

The number of patients admitted was 834, as against 616 in 1931, showing an increase of 218. There were 755 discharges and 69 deaths. 22 deaths occurred within 48 hours of admission. The gross fatality rate was 8.4 per cent., as against 7.34 during the previous year, or 5.9 excluding the 22 deaths referred to.

The average stay in hospital of the patients who recovered was 38.4 days and for fatal cases 6.8 days. 143 cases certified diphtheria were found to be suffering from some other disease. Of these cases 5 proved fatal.

Tracheotomy was performed in 11 cases, as against 20 in the previous year. 36 per cent. were fatal, as against 35 per cent. in 1931.

Intravenous Serum Treatment of Diphtheria.

The total number of cases of diphtheria treated during the year was considerably greater than during 1931, and the number of severe cases was also proportionately higher.

Of 834 admissions 154 cases were so severe as to necessitate treatment with serum by intravenous injection. The following table illustrates the severity of this type of diphtheria.

Total number of cases treated with intravenous anti-diphtheritic serum	..	..	..	..	..	..	154
Recoveries	..	..	..	..	..	..	107
Deaths	..	..	..	..	..	..	47
Case mortality	..	..	..	..	..	..	30.5 per cent.

Aural Report is given on pages 132 to 137.

Fifteen deaths occurred within 48 hours of admission, and if these are excluded the case mortality is 23.0 per cent.

The average number of days in hospital of the patients who recovered was 65. This high figure indicates the severity of the disease in this group of cases, because it is dependent on the long period which those patients who develop late pareses must remain in hospital.

Of the 107 patients who eventually recovered 43 (40.2 per cent.) developed pareses. Only 1 patient died during the late paralytic stage, from a combination of palatal, pharyngeal, and diaphragmatic paresis.

TABLE SHOWING PARESES AS THEY OCCURRED IN THOSE PATIENTS WHO
RECOVERED.

	Cases
Palatal paresis	22
Strabismus	5
Ciliary paresis	4
Palatal and pharyngeal paresis	3
Palatal paresis and strabismus	5
Palatal and ciliary paresis	1
Palatal, pharyngeal, and diaphragmatic paresis	1
Palatal, pharyngeal, diaphragmatic, and facial paresis..	1
General peripheral neuritis, ciliary, and facial paresis..	1
	<hr/>
	43

There has been no alteration in the method of administration of serum or in the dosage. An intramuscular dose of 40,000 units is usually given a short time before the intravenous injection is made, when, according to the severity of the case, 40,000 units and upwards of super-concentrated serum may be given. Since this routine was adopted last year severe immediate reactions have become almost unknown. If considered necessary, the concentration of antitoxin in the blood is maintained at a high level by a further intramuscular injection the next day, and in this way as much as 180,000 units in all of antitoxin have been administered.

The average dose of antitoxin given to the patients who recovered was 100,000 units, and to those who died, 134,000 units.

Laryngeal Diphtheria.

The number of cases in which tracheotomy was performed was 11, the lowest ever recorded.

Three cases of laryngeal diphtheria were admitted who had been tracheotomied before admission. They all terminated fatally.

TRACHEOTOMY CASES.

	Cases	Deaths
Under 1 year	2	2
1—2 years	3	1
2—3 „ .. .. .	..	..
3—4 „ .. .. .	..	..
4—5 „	2	..
5+ „	4	1
	<hr/>	<hr/>
Total	11	4
	<hr/>	<hr/>
Mortality Rate	36·4 per cent.	

TOTAL DIPHTHERIA CASES—824.

Age Incidence	Number	Percentage
0— 5 years	218	26·4
5—10 „	350	42·5
10—15 „	138	16·7
15—20 „	34	4·1
20 +	84	10·2

COMPLICATIONS IN DIPHTHERIA.

Complication	Number	Percentage
Otitis Media	41	5·0
Palatal Paresis	62	7·5
Pharyngeal Paralysis	14	1·7
Diaphragmatic Paralysis	4	·5
Facial Paralysis	6	·7
Cycloplegia	11	1·3
Cardiac Arrhythmia	6	·7
Strabismus	14	1·7
Ptosis	1	·1
Severe Albuminuria or Nephritis	20	2·4
Mastoid Operation	1	·1
Adenitis	21	2·5
Blepharitis	1	·1

ACTIVE IMMUNIZATION AGAINST DIPHTHERIA IN PATIENTS ADMITTED TO HOSPITAL SUFFERING FROM SCARLET FEVER.

All patients under seven are immunized against diphtheria irrespective of the Schick reaction, consequently the Schick testing of cases on admission to hospital has been discontinued.

ENTERIC FEVER GROUP.

In hospital at commencement of year	.. .. .	3
Admitted during year	.. .. .	46
Incorrectly diagnosed	.. .. .	6
Remaining in hospital at end of year	.. .. .	3
Discharged	.. .. .	38
Died	.. .. .	2
Fatality rate	.. .. .	5 per cent.
Average day of disease on admission	.. .. .	13.3
Average stay in hospital—Discharges	.. .. .	54.9 days
„ „ „ Deaths	.. .. .	3 „
Average age of patients	.. .. .	21.8 years

Other diseases admitted as Enteric Fever :—

Acute liver atrophy	.. .. .	1 case	Fatal
Pulmonary embolism and infective endocarditis..	I „	„	„
Salpingitis	.. .. .	I „	Recovered
Acute lobar pneumonia	.. .. .	I „	„
? Tuberculous abdomen	.. .. .	I „	„
Catarrhal jaundice	.. .. .	I „	„

The type of disease in cases discharged and died was as follows :—

Typhoid	.. .. .	17 cases
Paratyphoid	.. .. .	23 „

The complications were :—

Typhoid Fever—

Hæmorrhage	.. .. .	2 cases
Otorrhœa	.. .. .	1 case
Adenitis	.. .. .	I „

Paratyphoid Fever—

Thrombosis	.. .. .	1 case
Hæmorrhage	.. .. .	2 cases
Pneumonia	.. .. .	1 case

In the fatal cases the cause of death was :—

Cerebral Hæmorrhage	.. .. .	1 case
Broncho-pneumonia	.. .. .	I „

ERYSIPELAS.

One hundred and seventy-three cases were admitted, a decrease of 20 on the previous year, and 155 cases were discharged. There were 14 deaths, giving a mortality rate of 8·3 per cent., as against 6·7 per cent. in the previous year.

There were 22 cases notified as erysipelas in which the original diagnosis had to be amended. The following is a list of the conditions in which alteration of the notified diagnosis had to be made :—

	Cases
Eczema	2
Mammary abscess	2
Dermatitis	2
Septic cellulitis	2
Cellulitis	2
Mastoiditis and septic cellulitis	1
Alveolar abscess	1
Carbuncle	1
Furunculosis	1
Blepharitis	1
Septal abscess	1
Abscess forehead	1
Double otitis media	1
Infra orbital abscess	1
Herpes facialis	1
Erythema	1
Dacryocystitis	1

MEASLES.

Two hundred and forty-five cases were admitted and 264 were discharged. 22 deaths occurred, giving a fatality rate of 7·7 per cent. 18 of the 22 fatal cases and 15 per cent. of the total cases were complicated by broncho-pneumonia.

COMPLICATIONS IN MEASLES.

Complication	Recovered	Died
Broncho-pneumonia	26	18
Enteritis	11	—
Otorrhœa	56	—
Rickets	1	—
Bronchitis	15	1
Retropharyngeal Abscess	1	—
Albuminuria.. .. .	2	—
Rhinorrhœa	17	—
Blepharitis	3	—
Dermatitis	2	—
Acute Miliary and Pulmonary Tuberculosis	—	1
Cyclophagia	1	—
Mastoiditis	1	—

Aural Report is given on pages 132 to 137.

WHOOPING COUGH.

Thirty-nine cases of whooping cough were admitted during 1932, against 32 in the previous year. These cases were of a severe type and were moved to hospital on account of the severity of their symptoms and because their home conditions were unsatisfactory.

There were 5 deaths, giving a death rate of 12·8 per cent.

The causes of death in these patients were pneumonia (3) and convulsions (2). The incidence of these complications was as follows :—

Pneumonia	6 cases	=	15·4 per cent.
Convulsions	5 „		12·8 „
Enteritis	3 „		7·7 „

Three of the patients who died were under 1 year of age.

The majority of the severe cases of whooping cough were treated in an open-air balcony, with fresh air night and day, and careful feeding, and, in the more severe type, the administration of a specific vaccine. Thirteen patients received a course of treatment consisting of gradually increasing doses of a vaccine composed of *B. pertussis*, *B. influenza*, and pneumonococcus.

Having regard to the severity of the types of cases treated, the administration of vaccine seemed to control the severity of the symptoms without shortening the period of the illness. The impression gained was that the administration of the vaccine by graduated doses distinctly ameliorated the severity of the paroxysmal stage.

PUERPERAL FEVER.

The number of admissions was 162, as against 150 in the previous year, showing an increase of 12. One hundred and fifty-one were discharged cured and 18 deaths occurred, giving a case mortality of 10·7 per cent., as against 8 per cent. during the previous year. Five deaths occurred within 48 hours of admission.

The average stay in hospital of those who recovered was 23·1 days, and of fatal cases 8·2 days.

The average day of disease on admission to hospital was the sixth.

CEREBRO-SPINAL FEVER.

Thirty-two cases of meningococcal meningitis were treated during the year. Of these 18 died and 14 recovered, giving a fatality rate of 56·25 per cent.

Age Group			No. of Cases	Male	Female	Died	Recovered	Case Mortality per cent.
Under 1 year	..	..	8	6	2	8	0	100
1 to 5 years	..	..	9	4	5	3	6	33
5 ,, 10	..	..	5	3	2	2	3	40
10 ,, 20	..	..	5	3	2	3	2	60
20+	..	..	5	3	2	2	3	40

Average day of disease on admission to hospital:—
Recoveries : sixth.
Deaths : sixth.

Average day of disease on which death occurred : twelfth.

Average number of punctures performed (lumbar, cistern, or ventricular) : 4.5.

Average amount of serum given : 57 c.cs.

	Cases	Deaths	Recoveries	Death Rate per cent.
Polyvalent serum employed ..	15	7	8	47
Monovalent Group I. serum employed	3	1	2	33
Combined Polyvalent and Group I. serum employed ..	11	7	4	64
No serum given	3	3	0	100

The number of cases admitted to hospital during 1932 shows an increase over the year 1931, in which year the largest number of cases was admitted during the last 5 years.

In spite of the increased number of cases dealt with, the mortality rate shows a marked diminution. This may be accounted for by two factors:—

1. The antimeningococcal serum which has been used exclusively is that prepared from fresh strains of meningococci, and not from old stock cultures.
2. The average day of disease on admission to hospital is much less than formerly. Whereas in 1931 the average day of disease on admission was the 10th day, during 1932 that average was the 6th day of disease.

This suggests that the earlier the cases are admitted the better is the prognosis.

The severity of the cases was probably as great, if not greater, than in 1931. It will be noticed that the average day of disease when death occurred was the 21st day in 1931, whereas during 1932 that day was the 12th—an indication that the disease was more virulent.

Three cases were admitted during the year which were moribund on arrival, and no serum was given. If these cases are excluded the mortality rate is 52 per cent.

TABLE OF CEREBRO-SPINAL FEVER CASES, 1928—1932.

								Discharges and Deaths	Percentage Death Rate
1928	..	..	..	..	..	..	..	2	100
1929	..	..	..	..	..	..	..	4	75
1930	..	..	..	..	..	..	..	8	100
1931	..	..	..	..	..	..	..	27	78
1932	..	..	..	..	..	..	..	32	56

OTHER INFECTIOUS DISEASES.

The following table gives the admissions of other infectious diseases during the year :—

								Cases
Encephalitis lethargica	..	..	..	..	..	..	..	3
Rubella	..	..	..	..	..	..	..	59
Chicken-pox	..	..	..	..	..	..	..	33
Mumps	..	..	..	..	..	..	..	17

BABIES' WARD (MALNUTRITION AND RICKETS).

The 8 cots of the Babies' Ward were fully occupied throughout the year. There were 21 admissions, 23 discharges, and 1 death.

TABLES FOR 1932.

TABLE SHOWING NUMBERS OF VARIOUS DISEASES TREATED.

DISEASE	Remaining in Hospital, Jan. 1st, 1932	Admitted	Discharges and Deaths	Remaining in Hospital, Dec. 31st, 1932
Scarlatina	229	2,050	2,080	199
Diphtheria	104	834	824	114
Enteric Fever	3	40	40	3
Erysipelas	14	173	163	18
Puerperal Fever	16	162	169	9
Measles	41	245	286	—
Other Diseases	30	747	752	25
Total	437	4,251	4,320	368

OTHER DISEASES ADMITTED AS ENCEPHALITIS LETHARGICA.

	Recovered	Died
Chronic Myocarditis	—	1
Tuberculosis Meningitis	—	2
Acute Influenzal Broncho-pneumonia ..	—	1
Debility	1	—

POST-MORTEM EXAMINATIONS.

During the year 7 post-mortem examinations were performed.

Disease Notified	Post-mortem Findings
Encephalitis Lethargica	Acute Influenzal Broncho-pneumonia
Cerebro-spinal Meningitis	Tubercular Meningitis. Tubercular Peritonitis
Cerebro-spinal Meningitis	Meningococcal Meningitis
Diphtheria	Septic Scarlet Fever. Icterus Graves
Diphtheria	Faucial Diphtheria
Diphtheria	Lateral Sinus Thrombosis. Acute Otitis Media
Diphtheria	Severe Faucial and Laryngeal Diphtheria

AURAL REPORT.

The total number of cases of otorrhœa occurring in the hospital during 1932 was 321, these being distributed as follows:—

In scarlet fever	200
„ measles	56
„ diphtheria	48
„ miscellaneous diseases	17

SCARLET FEVER.

Among the 2,066 cases discharged and 14 deaths during 1932 there were 200 cases of otorrhœa, a case incidence of 9.6 per cent.

Mastoid drainage was required in 25 cases, being an incidence of 1.2 per cent. of scarlet fever cases, and 12.5 per cent. of cases of otorrhœa.

During the year 150 cases were admitted for special treatment to the Aural Ward, 23 cases remaining at the end of the year.

Of the total cases, 151 were unilateral and 49 bilateral; 30 of the cases were recurrences or exacerbations of chronic pre-scarlatinal otitis.

The average day of onset of otorrhœa was the 19th, and the average duration of otorrhœa was 38 days.

Antiscarlatinal serum has been administered to 86 of the cases (43 per cent.) on admission.

Of the cases, 101 were females and 99 males.

TABLE OF AGE INCIDENCE OF AURAL COMPLICATIONS.

Years	0-1	2	3	4	5	6	7	8	9	10	Over 10
170 cases ..	4	19	27	33	21	16	14	12	5	10	9
Percentage Age Incidence..	2·4	11·2	15·9	19·4	12·3	9·4	8·2	7·1	2·9	5·9	5·3

Operations performed by the Aural Surgeons.

Mastoid drainage—

Unilateral	24
Bilateral.. .. .	1
Paracentesis	1
Wilde's incision	1
Removal of tonsils and adenoids	1
Operation for sinus thrombosis with ligature of internal jugular vein	1

Mastoid Operations.

Among the 25 cases the average day of disease on which mastoid drainage was required was the 44th, and the average duration of otorrhœa after the operation was 40 days. Of the cases 17 were females and 8 were males.

Deaths in Aural Cases.

Four deaths occurred: 3 of these were due to septicæmia (1 occurring 22 days after a mastoid drainage operation); and 1 death followed 9 days after an operation for sinus thrombosis, with ligature of the right internal jugular vein—an extensive abscess formation was discovered in the lungs during the post-mortem examination of this case.

Incidence of Other Complications in Otorrhœa Cases.

Other complications of scarlet fever were frequent in the 200 cases: rhinorrhœa being present in 27 per cent. of the cases; adenitis and abscess formation in 20 per cent.; and nephritis in 4·5 per cent. Several other complications were frequent, as conjunctivitis (1·5 per cent.); arthritis (1·0 per cent.); and quinsy (1·5 per cent.).

Occurrence of Diphtheria Infections in Aural Cases.

The organisms of diphtheria were isolated in 27 of the otorrhœa cases during the year (in 17 of the cases treated in the aural ward).

They were distributed as follows:—

K.L.B. rhinitis	20
K.L.B. otitis.. .. .	3
K.L.B. rhinitis and otitis	3
K.L.B. conjunctivitis	1

Incidence of Aural Pain before Onset of Otorrhœa.

Premonitory aural pain was only noted in 5.9 per cent. of cases.

Alteration of Temperature before Onset of Otorrhœa.

(a) A definite, sharp rise of temperature occurred before the onset of otorrhœa in 22.4 per cent. of cases (up to 99° F. in 10.6 per cent. ; to 100° F. in 5.9 per cent. ; and to over 100° F. in 5.9 per cent.).

(b) In 17.7 per cent. of cases the temperature was irregular in type before the onset of otorrhœa.

DIPHTHERIA.

Among the 755 cases discharged and 69 deaths during 1932 there occurred 48 cases (5.8 per cent.) of otorrhœa.

Of these, 34 were unilateral, 14 were bilateral, and 10 were exacerbations or recurrences of pre-diphtheritic otitis.

Of the cases 20 were males and 28 were females.

Operations in Diphtheria Cases.

Paracentesis	1
Tonsillectomy	1
Wilde's incision	1
Mastoid drainage	1

MEASLES.

Among the 264 cases discharged and 22 deaths during 1932 there occurred 56 cases (19.6 per cent.) of otorrhœa.

Of these 33 were unilateral and 23 bilateral.

Of the cases 31 were males and 15 were females.

MISCELLANEOUS CASES OF OTORRHœA.

Acute otitis media	7
Chicken-pox	3 (chronic pre-existent)
Erysipelas	3 (acute)
Meningitis	1 „
Laryngitis	1 „
Tonsillitis	1 „
Rubella	1 (chronic)
Total	17

REPORT OF CASES TREATED IN THE BED ISOLATION WARD.

Nature of Cases										No. of Cases
Certified Scarlet Fever, no confirmatory symptoms	..	..	..	..	..	..	..	..	..	25
Scarlet Fever, diagnosis doubtful, isolated 21 days	..	..	..	..	..	..	..	..	..	89
„ „ and Diphtheria	..	..	..	..	..	..	..	..	..	44
„ „ Diphtheria and Whooping Cough	..	..	..	..	..	..	..	..	..	2
„ „ Chicken-pox and Whooping Cough	..	..	..	..	..	..	..	..	..	1
Septic Scarlet Fever	..	..	..	..	..	..	..	..	..	3
Scarlet Fever, for special isolation prior to discharge	..	..	..	..	..	..	..	..	..	27
„ „ and Mumps	..	..	..	..	..	..	..	..	..	3
„ „ „ Rubella	..	..	..	..	..	..	..	..	..	3
„ „ „ Dysentery	..	..	..	..	..	..	..	..	..	1
„ „ „ Chicken-pox	..	..	..	..	..	..	..	..	..	7
„ „ „ Whooping Cough	..	..	..	..	..	..	..	..	..	8
„ „ „ Paratyphoid	..	..	..	..	..	..	..	..	..	1
„ „ „ Pneumonia	..	..	..	..	..	..	..	..	..	1
„ „ „ Simple Vaginitis	..	..	..	..	..	..	..	..	..	6
„ „ „ Rhinorrhœa	..	..	..	..	..	..	..	..	..	27
„ „ „ Impetigo	..	..	..	..	..	..	..	..	..	15
„ „ „ Thread Worm	..	..	..	..	..	..	..	..	..	1
„ „ „ Scabies	..	..	..	..	..	..	..	..	..	4
„ „ „ Bronchiectasis	..	..	..	..	..	..	..	..	..	1
„ „ „ Enteritis	..	..	..	..	..	..	..	..	..	1
„ „ „ Rickets	..	..	..	..	..	..	..	..	..	3
„ „ „ Surgical Conditions	..	..	..	..	..	..	..	..	..	6
„ „ „ Conjunctivitis	..	..	..	..	..	..	..	..	..	1
Diphtheria—Diagnosis not upheld :—										
Quinsy	..	..	..	..	..	..	..	..	..	3
Paratyphoid B.	..	..	..	..	..	..	..	..	..	1
Tonsillitis	..	..	..	..	..	..	..	..	..	4
Bronchitis and Pneumonia	..	..	..	..	..	..	..	..	..	1
Scarlet Fever	..	..	..	..	..	..	..	..	..	4
Observation Cases :—										
Diagnosis not upheld	..	..	..	..	..	..	..	..	..	35
„ upheld	..	..	..	..	..	..	..	..	..	29
Carried forward										257

CASES TREATED IN THE BED ISOLATION WARD—continued.

Nature of Cases											No. of Cases
Brought forward											257
Diphtheria and Whooping Cough	..	..	..	..	..	..	..	..	..	..	6
„ „ Rubella	..	..	..	..	..	..	..	..	..	..	1
„ „ Enteritis	..	..	..	..	..	..	..	..	..	..	1
„ „ Measles	..	..	..	..	..	..	..	..	..	..	4
„ „ Conjunctivitis	..	..	..	..	..	..	..	..	..	..	2
„ „ Vincent's Angina	..	..	..	..	..	..	..	..	..	..	1
„ „ Streptococcal Throat Infection	..	..	..	..	..	..	..	..	..	..	2
„ „ Scabies	..	..	..	..	..	..	..	..	..	..	2
„ „ Impetigo	..	..	..	..	..	..	..	..	..	..	3
„ „ Rickets	..	:	..	..	..	..	..	..	..	..	2
„ „ Dysentery	..	..	..	..	..	..	..	..	..	..	2
„ „ Mumps	..	..	..	..	..	..	..	..	..	..	3
„ „ Ringworm	..	..	..	..	..	..	..	..	..	..	1
„ „ Contact Scarlet Fever	..	..	..	..	..	..	..	..	..	..	4
„ „ Observation for Rash or Desquamation	..	..	..	..	..	..	..	..	..	..	6
Measles Cases :—											
Measles	..	..	..	..	..	..	..	..	..	..	25
„ Whooping Cough and Broncho-pneumonia	..	..	..	..	..	..	..	..	..	..	1
„ and Whooping Cough	..	..	..	..	..	..	..	..	..	..	1
„ Diagnosis not upheld	..	..	..	..	..	..	..	..	..	..	1
„ and other infectious conditions	..	..	..	..	..	..	..	..	..	..	20
Chicken-pox	..	..	..	..	..	..	..	..	..	..	1
Rubella	..	..	..	..	..	..	..	..	..	..	17
Mumps	..	..	..	..	..	..	..	..	..	..	14
Cerebro-spinal Fever	..	..	..	..	..	..	..	..	..	..	5
Whooping Cough for open-air balcony treatment	..	..	..	..	..	..	..	..	..	..	18
„ „ and Chicken-pox	..	..	..	..	..	..	..	..	..	..	2
Tonsillitis	..	..	..	..	..	..	..	..	..	..	4
Bronchitis and Broncho-pneumonia	..	..	..	..	..	..	..	..	..	..	3
Penphigus	..	..	..	..	..	..	..	..	..	..	1
Erysipelas	..	..	..	..	..	..	..	..	..	..	2
Alveolar Abscess	..	..	..	..	..	..	..	..	..	..	1
Dermatitis	..	..	..	..	..	..	..	..	..	..	1
Retropharyngeal Abscess	..	..	..	..	..	..	..	..	..	..	2
Marasmus	..	..	..	..	..	..	..	..	..	..	1
Paratyphoid B.	..	..	..	..	..	..	..	..	..	..	1
Meningitis	..	..	..	..	..	..	..	..	..	..	1
Debility and Serum reaction	..	..	..	..	..	..	..	..	..	..	1
Simple Parotitis	..	..	..	..	..	..	..	..	..	..	1

During the year 1932 521 cases passed through the Bed Isolation Ward of 30 beds, an increase of 125 on the previous year.

Throughout the year the beds were fully in use and the increased number of cases dealt with in this ward was occasioned by the prevalence during the year of measles, rubella, whooping cough, mumps, and chicken-pox. In consequence an increased number of cases of concurrent infectious disease and patients incubating other infectious diseases were admitted.

Cross infection occurring in the general wards of the hospital was singularly low throughout the year, and although the various infections recorded in this table were dealt with in the common atmosphere of the Bed Isolation Ward, it is a tribute to the high standard of the nursing attained and to the methods sterilization and ventilation that there were no cases of cross infection to record.

The installation of further equipment for the sterilization of bed-pans has been approved by the committee and is in course of construction.

In addition to this ward, owing to the increased incidence, other wards were allocated during the year for the treatment of whooping cough and measles during the epidemic prevalence of these infections. This accommodation was rendered possible by the smaller number of cases of scarlet fever offered for admission.

Several years' experience of the Bed Isolation Ward has demonstrated that it is possible successfully to carry out bed isolation methods and nursing in a large ward specially adapted for this purpose without the more costly installation of glass cubicles.

LABORATORY REPORT.

MICROSCOPICAL EXAMINATION OF CULTURES FOR B. DIPHTHERIA.

Source of Swab	Positive	Number Examined
Throat	527	6,543
Nose	667	7,404
Ears	145	1,131
Eyes	—	2
Total	1,339	15,080

A list is appended of the various specimens examined in the laboratory during the year:—

Fæces	364
Urine	313
Cerebro-spinal fluid	123
Sputa	11
Pleural effusion	6
Blood cultures	146
Peritoneal fluid	3
Pus	11
Smears—	
Vaginal	54
Throat	36
Blood agglutinations	46
Differential blood counts	2

ILLNESS OF NURSING STAFF NECESSITATING WARD TREATMENT
DURING 1932.

Condition	Number of Cases	Days Warded
Tonsillitis and Quinsy	28	224
Diphtheria	4	198
Scarlet Fever	2	86
Mumps	1	21
Influenza	3	32
Jaundice	5	63
Otitis Media	2	12
Rubella	2	14
Laryngitis	1	10
Debility (general)	1	12
Rheumatism	4	54
Pneumonia	1	28
Impetigo	1	9
Varicella	1	14
Adenitis	1	7
Accident (burns)	1	22
Septic Finger	1	12
Tonsillectomy	3	21
Total	62	839

IMMUNISATION OF NURSING STAFF.

During the year 94 nurses joined the hospital staff. All of these were tested for susceptibility to diphtheria and scarlet fever by the Schick and Dick tests.

Eleven nurses were susceptible both to diphtheria and scarlet fever and were given a diphtheria and a scarlet fever prophylactic course.

Twenty-five Schick positive nurses were immunised against diphtheria and 19 Dick positive nurses were immunised against scarlet fever.

Fifty-two nurses were inoculated against typhoid and paratyphoid fevers. Reactions were noted in 11.5 per cent.

PUERPERAL FEVER.

During the period covered by this report, from the 1st January, 1932, to the 31st December, 1932, 169 patients passed through the Puerperal Fever Unit.

These may be classified as follows :—

(1) Uterine sepsis following delivery at full-term.. ..	75
(2) Uterine sepsis following abortion	71
(3) Pyrexia due to causes other than uterine sepsis ..	16
(4) Diseases other than puerperal diseases	7
	<u>169</u>

Eighteen deaths occurred during the year, the causes of which were as follows :—

(1) Sepsis following full-term delivery	11
(2) Sepsis following abortion	4
(3) Pneumonia	2
(4) Chronic valvular disease of the heart	1
	<u>18</u>

Five deaths took place within 48 hours of admission.

The relative importance of sepsis following delivery at full-term and sepsis following abortion is shown in the following table :—

	Total Cases	Deaths	Deaths within 48 hours	Case Mortality	Case Mortality, excluding deaths within 48 hours
Full-term	75	11	3	14.7	11.1
Abortions	71	4	2	5.6	2.9

In the 15 cases in which death resulted from uterine sepsis the actual complications present were :—

General peritonitis	4
Septicæmia	6
Pelvic cellulitis	2
Postpartum hæmorrhage and sepsis	2
Puerperal mania	1
	—
	15
	—

In addition to local uterine infection, complications were present in 48 cases—

	Mortality Rate per cent.
Septicæmia 16	31·2
Parametritis 7	—
Phlegmasia alba dolens 7	—
General peritonitis 4	100
Mania 5	20·0
Pyelitis 3	—
Pelvic cellulitis 2	100
Pulmonary embolism 1	—
Streptococcal empyema 1	—
Mammary abscess 1	—
Streptococcal arthritis 1	—

The incidence of sepsis in multiparæ and primiparæ following normal and following abnormal labour is illustrated in this table :—

	Cases	Normal Labour	Difficult Labour
Primiparæ	36	19	17
Multiparæ	39	29	10
	75	48	27

BACTERIOLOGY.

A hæmolytic streptococcus was isolated from the uterine discharge in 18 cases, and in 11 of these it was also recovered from the blood. The incidence of this infection relative to parity and to complicated and uncomplicated labour may be judged from the following table :—

	Normal Labour	Abnormal Labour
Primiparæ	2	4
Multiparæ	5	4
Abortions		3

Seven deaths occurred in patients infected with hæmolytic streptococci. Four were due to septicæmia complicated by general peritonitis and three to septicæmia alone. One patient developed a streptococcal empyema and another a suppurative arthritis of the kneejoint: both these recovered.

Staphylococcus aureus was repeatedly obtained from the blood of one patient who died, and a non-hæmolytic streptococcus was isolated from the blood of two other patients who died.

TREATMENT.

Treatment by glycerine irrigation of the uterus has been continued in all cases except those where manipulative movement of the patient is contra-indicated. Brilliant green as an antiseptic, strength 1 part per 1,000, has been substituted for iodine in these irrigations, and a 20 per cent. solution of argyrol has been used for local cervical and vaginal complications.

The intramuscular injection of scarlatinal antistreptococcal serum has been found of so little value that its routine use has been discontinued. On the other hand, the gradual intramuscular administration of small and successive doses of the milder non-toxic arsenicals, *e.g.*, Metarsenobillon, has been of definite value where the infection of the blood stream by the streptococcus hæmolyticus has been found. Improvement has been shown by a marked remission of fever corresponding with the diminution of the bacterial content of the blood stream. For the successful adoption of this treatment close correlation has been necessary between the work in the laboratory and the bedside examination of the cases.

Puerperal peritonitis is still the most fatal complication, and its early clinical recognition is receiving serious attention. Our experience has shown that early operation for drainage offers the best prospect of recovery.

Blood transfusion has been followed with beneficial effect in two cases of marked anæmia during the year, one of which recovered.

Radiant heat has been used for the relief of pelvic pain and for the treatment of phlegmasia.

Having regard to the importance as an infecting agent of droplet infection from the throat and nose of attendants and the patient herself, the use of gauze masks has been adopted by the nursing and medical staff in the operating and treatment room, and swabs have been taken from the patient in each case. These swabs, when containing the infective organism, and cultures of streptococcus from the source of infection, have been sent to a research worker at the Public Health Laboratory to determine the strain of organism present and its correlation to contacts with the patient prior to the onset of illness.

Arrangements have been provided for the separate nursing of cases from whom the hæmolytic streptococcus has been isolated by the provision of a Bed Isolation Ward, with equipment for the sterilization of all articles used by the patient. By this means it is hoped to avoid the risk of infecting the milder and "observation" cases admitted certified as puerperal sepsis or puerperal pyrexia.

MORTALITY RATE OF CASES OF PUERPERAL FEVER TREATED AT MONSALL
HOSPITAL FROM 1910 TO 1932.

				per cent.					per cent.
1910	...	..	..	19.7	1922	..	..	..	22.4
1911	..	..	..	15.2	1923	..	..	..	7.9
1912	..	..	..	15.9	1924	..	..	..	18.9
1913	..	..	..	20.0	1925	..	..	..	15.23
1914	..	..	..	20.0	1926	..	..	..	18.98
1915	..	..	..	25.4	1927	..	..	..	10.08
1916	..	..	..	27.6	1928	..	..	..	13.9
1917	..	..	..	15.9	1929	..	..	..	9.6
1918	..	..	..	12.6	1930	..	..	..	14.05
1919	..	..	..	21.6	1931	..	..	..	8.0
1920	..	..	..	28.8	1932	..	..	..	10.7
1921	..	..	..	14.3					

ABERGELE SANATORIUM.

By J. E. GEDDES, M.D., MEDICAL SUPERINTENDENT.

The available beds are allocated according to the age of the patient and the type of disease, as follows :—

Age	Type of Tubercle	Sex	Number of Beds
1-4	Bone and Joint Tuberculosis .. {	10 Boys 10 Girls	} 20
4-15	Ditto. ditto. .. {	37 Boys 37 Girls	} 74
1-4	Pulmonary Tuberculosis, including tracheo-bronchial glands, peripheral glands, and abdominal Tuberculosis {	10 Boys 10 Girls	} 20
4-15	Ditto. ditto. .. {	37 Boys 37 Girls	} 74
—	Admission Ward	—	12
.....			
Adults (Plas Uchaf)	Pulmonary Tuberculosis {	42 Males 10 Females	} 52
		Total available beds ..	252
	Isolation Ward	—	10

At the commencement of the year there were 156 patients in the sanatorium :—

52 in the adult section, and
104 in the children's section.

At the end of the year there were 245 patients in the sanatorium :—

50 in the adult section, and
195 in the children's section.

TABLE I.
GENERAL CLASSIFICATION OF CASES TREATED IN 1932.

Classification on Admission	In Residence on 1st Jan., 1932		Admitted		Discharged		Died		In Residence on 1st Jan., 1933	
	Adults	Children	Adults	Children	Adults	Children	Adults	Children	Adults	Children
<i>Pulmonary Group—</i>										
T.B. Minus	13	34	32	40	26	23	—	1	19	50
T.B. Plus Group 1	4	1	16	1	16	—	—	—	4	2
T.B. Plus Group 2	35	8	47	2	52	1	3	—	27	9
T.B. Plus Group 3	—	—	—	1	—	—	—	1	—	—
<i>Non-Pulmonary Group—</i>										
Bones and Joints	—	47	—	64	—	10	—	2	—	99
Abdominal	—	7	—	20	—	4	—	—	—	23
Other Organs	—	1	—	1	—	1	—	—	—	1
Peripheral Glands	—	6	—	9	—	4	—	—	—	11
Totals	52	104	95	138	94	43	3	4	50	195

TOTAL PATIENTS TREATED—
Adults Section of the Sanatorium 147
Children's Section of the Sanatorium 242
The total patients treated in the Adult Section of the Sanatorium were 17 less

TABLE 2.

ANALYSIS OF ADMISSION OF CASES OF BONE AND JOINT TUBERCULOSIS.

	Hip Joint	Knee Joint	Ankle Joint	Spine	Other Bones
Advanced	17	4	2	18	2
Intermediate	5	5	—	2	2
Early	2	3	1	—	1
Totals	24	12	3	20	5

This classification is based on the extent of bone destruction as shown by the initial radiological examination. It does not take into account the degree of activity of the disease.

TABLE 3.
RESULT OF TREATMENT IN DISCHARGED PULMONARY CASES.

Duration of Residence		Under 3 months		3-6 months		6-12 months		Over 12 months		Totals	
Classification on Admission	Condition on Discharge	Adults	Children	Adults	Children	Adults	Children	Adults	Children	Adults	Children
T.B. Minus.. .. .	Quiescent ..	M. 2	F. ..	M. 1	F. 1	M. ..	F. 2	M. 1	F. ..	5	11
	Improved ..	5	..	..	..	3	3	1	1	19	10
	Stationary ..	..	1	..	..	..	..	..	..	1	1
	Worse ..	..	..	..	..	..	..	..	..	1	..
	Died ..	..	1	..	..	..	..	..	..	..	1
T.B. Plus Gr. 1.. .. .	Quiescent ..	1	..	..	..	..	..	1	..	2	..
	Improved ..	4	..	..	..	..	..	1	..	14	..
	Stationary ..	..	..	..	..	..	..	..	..	..	..
	Worse ..	..	..	..	..	..	..	..	..	..	..
	Died ..	..	..	..	..	..	..	..	..	..	..
T.B. Plus Gr. 2	Quiescent ..	..	..	..	..	1	..	..	..	2	..
	Improved ..	7	3	..	..	4	1	3	..	39	1
	Stationary ..	3	..	..	..	2	..	1	..	10	..
	Worse ..	..	..	..	..	..	..	1	..	1	..
	Died ..	..	..	..	..	2	..	1	..	3	..
T.B. Plus Gr. 3	Quiescent ..	..	..	..	..	..	..	..	..	..	..
	Improved ..	..	..	..	..	..	..	..	..	..	..
	Stationary ..	..	..	..	..	..	..	..	..	..	..
	Worse ..	..	..	..	..	..	..	..	..	..	..
	Died ..	..	1	..	..	..	..	..	..	..	1
										97	25

The two children who died were in residence for 29 days and 31 days respectively. Both were cases of advanced pulmonary

Duration of Residence		Under 3 months		3-6 months		6-12 months		Over 12 months		Total
Classification on Admission	Condition on Discharge	Children		Children		Children		Children		Total
		M.	F.	M.	F.	M.	F.	M.	F.	
Bones and Joints..	Quiescent	..	..	..	..	..	..	4	1	5
	Improved	I	..	I	..	..	..	..	..	2
	Stationary	..	..	..	..	..	..	2	..	2
	Worse	..	..	..	..	..	..	..	..	..
	Died	..	..	..	..	I	I	..	..	2
Abdominal	Quiescent	..	..	..	..	I	..	..	..	1
	Improved	I	..	I	..	..	I	..	..	3
	Stationary	..	..	..	..	..	..	..	..	..
	Worse	..	..	..	..	..	..	..	..	..
	Died	..	..	..	..	..	..	..	..	..
Other Organs	Quiescent	..	..	..	..	..	I	..	..	1
	Improved	..	..	..	..	..	..	..	..	..
	Stationary	..	..	..	..	..	..	..	..	..
	Worse	..	..	..	..	..	..	..	..	..
	Died	..	..	..	..	..	..	..	..	..
Peripheral Glands	Quiescent	..	..	..	..	I	..	I	..	2
	Improved	..	..	I	..	..	..	I	..	2
	Stationary	..	..	..	..	..	..	..	..	..
	Worse	..	..	..	..	..	..	..	..	..
	Died	..	..	..	..	..	..	..	..	..
								TOTAL		20

The two children who died were in residence for 265 days and 276 days respectively. Both were cases of advanced spinal tuberculosis with sinus formation.

The two children who were classified on discharge as stationary were each in residence for 410 days. They were transferred to Booth Hall Infirmary as cases of advanced spinal disease not responding to treatment.

One child was discharged as non-tuberculous.

The results of treatment in these 142 discharged cases were as follows :—

	Total cases Discharged	Quiescent	Improved	Stationary	Worse	Died
Adults (pulmonary)	97	9 (9.3%)	72 (74.2%)	11 (11.3%)	2 (2.1%)	3 (3.1%)
Children (pulmonary)	25	11 (44%)	11 (44%)	1 (4%)	..	2 (8%)
Children (non-pulmonary)	20	9 (45%)	7 (35%)	2 (10%)	..	2 (10%)

The figures in brackets indicate the percentage of the total patients in each group discharged with their disease in the condition stated at the head of the column.

ADULT SECTION OF THE SANATORIUM.
GENERAL CLASSIFICATION OF CASES TREATED IN 1932.

In residence on 1st January, 1932	.. .. .	52
Admitted	.. .. .	95
Discharged	.. .. .	94
Died	.. .. .	3
In residence on 1st January, 1933	.. .. .	50

GENERAL TREATMENT.

The value of rest and graded exercises in the treatment of pulmonary tuberculosis is axiomatic, and in the routine of treatment they are given the prominence they deserve.

On admission each patient is placed at complete rest in bed. A complete clinical examination is made, and according to the degree of activity of the pulmonary disease the duration of the resting period is assessed. Thereafter the patient is carefully advanced through walks of graded length to the stage of work in the grounds and in the kitchen garden. The rate of progress is controlled by the condition of the pulmonary disease.

The walks available for the male patients are varied and from every point of view satisfactory. Additional walks for the female patients are necessary—particularly so as the present paths are limited to the valley of the Gele stream. Towards the end of the year a path for female patients on the Ysgeirallt hill was under process of construction. This path will make the gradation of walks more complete, apart from the very definite value of extending the existing paths from the valley on to the high ground to the west of the sanatorium.

The treatment of pulmonary tuberculosis demands time, and the co-operation of the patient is naturally of great importance. Occupational work, apart from its distinct value as a therapeutic measure, promotes the interest of the patient in his treatment and creates a stimulus of a far-reaching kind to which he reacts with eagerness and interest.

The occupation of the convalescent patient has been carefully controlled, and useful work has been carried out in the grounds and in the kitchen garden.

Additional facilities for occupational work are, however, imperative, and in particular the inauguration of a system of training in various forms of handicraft under the direction of an instructor. The conversion of the laundry building at Plas Uchaf into workshops for patients has been fully discussed by the House Sub-Committee, and authority has been granted for this work to proceed during the current year.

The training in the workshops will consist of carpentry, metal work, and boot-repairing for the male patients, and leather and basketry work for the female patients. It will form an integral part of treatment, and in the allocation of work the inclination and aptitude of each patient will be considered. The work will be under the immediate control of a suitably trained instructor.

SPECIAL TREATMENT.

Treatment by Artificial Pneumothorax.

Successful inductions	.. .. .	6
Unsuccessful inductions	.. .. .	4
Discontinued	.. .. .	1
Refills	.. .. .	127
Treatment by phrenic evulsion	.. .. .	3

Sanocrysin or crisalbine has been used alone or in conjunction with artificial pneumothorax in 17 cases.

The number of pulmonary radiograms taken during the year was 156.

Details of laboratory work are shown in Table 9 in a later part of the report.

GENERAL NOTES.

The reconstruction of the female patients' recreation room at Plas Uchaf has been completed and the additional accommodation is proving a great asset.

The dynamo and the old storage batteries were completely worn out and have been dismantled. A new supply of electricity from the North Wales Power Co. was provided. The system of lighting to the house and chalet was entirely renewed, and the provision of outside lights on the chalet roof as a part of this scheme has proved to be of real value.

The laundry work for the whole sanatorium is now undertaken in the new laundry. The machinery in the laundry at Plas Uchaf has been sold.

CHILDREN'S SECTION OF THE SANATORIUM.

GENERAL CLASSIFICATION OF CASES TREATED IN 1932.

In residence on 1st January, 1932	.. .. .	104
Admitted	.. .. .	138
Discharged	.. .. .	43
Died	.. .. .	4
In residence on 1st January, 1933	.. .. .	195

TREATMENT.

Non-Pulmonary Tuberculosis—Heliotherapy.

Heliotherapy is of unique value in the treatment of non-pulmonary tuberculosis. It exerts a profound influence on the general body tone and a beneficial effect on the repair of the local lesion.

In no other disease is it more important to stimulate the natural resistance to infection, and this object is achieved by the regulated use of solar irradiation.

The climate of North Wales is equable and eminently suitable for the application of heliotherapy in treatment. The rainfall is low, the duration of sunshine is prolonged, and the actinic value of the sunshine is high.

The sunshine hours and rainfall records for 1932 for North Wales and Manchester are appended for comparison :—

	Sunshine Hours		Rainfall in Inches	
	Manchester	North Wales	Manchester	North Wales
January	20·6	64·3	3·90	3·38
Februray	39·7	65·3	0·11	0·14
March	52·0	103·1	2·21	1·52
April	99·0	124·2	2·95	3·0
May	88·3	132·0	4·77	2·96
June	182·6	252·3	0·46	0·47
July	92·2	135·7	3·54	3·04
August	130·9	171·0	1·44	1·95
September	89·9	124·1	3·95	2·55
October	50·3	75·2	7·42	4·52
November	10·2	45·2	2·82	2·12
December	11·3	50·5	1·49	1·32
Totals	867·0	1,342·9	35·06	26·97

(We are indebted to the Medical Officer of Health for Rhyl for the North Wales records.)

The situation of the wards and the construction of the ward verandahs are such that heliotherapy can be adopted to the maximum extent. Active ærotherapy commenced in January and was continued until the end of October.

Dosage of Heliotherapy.

It is impossible to generalise for all patients in the application of heliotherapy. The dose of irradiation prescribed varies and a systematic technique is adopted for each child. It is controlled by numerous factors, the most important being the age and the general sensitiveness of the individual to light and the form and extent of the tuberculous disease.

In the admission ward the patient is gradually accustomed to life in the open air. At the end of three weeks he is transferred to an open-air ward, and the time spent outdoors is increased until he is able to live in the open air for practically 24 hours. Active solar irradiation is commenced only when the extent and degree of activity of the tuberculous lesion is gauged and the child has become accustomed to the conditions of life in an open-air hospital.

The sunbaths are then applied gradually and irrespective of the localisation of the disease the feet are exposed first, and the duration of exposure and the part exposed is increased daily until the whole body is exposed. In certain circumstances it may be desirable to protect the area of disease during the initial exposures.

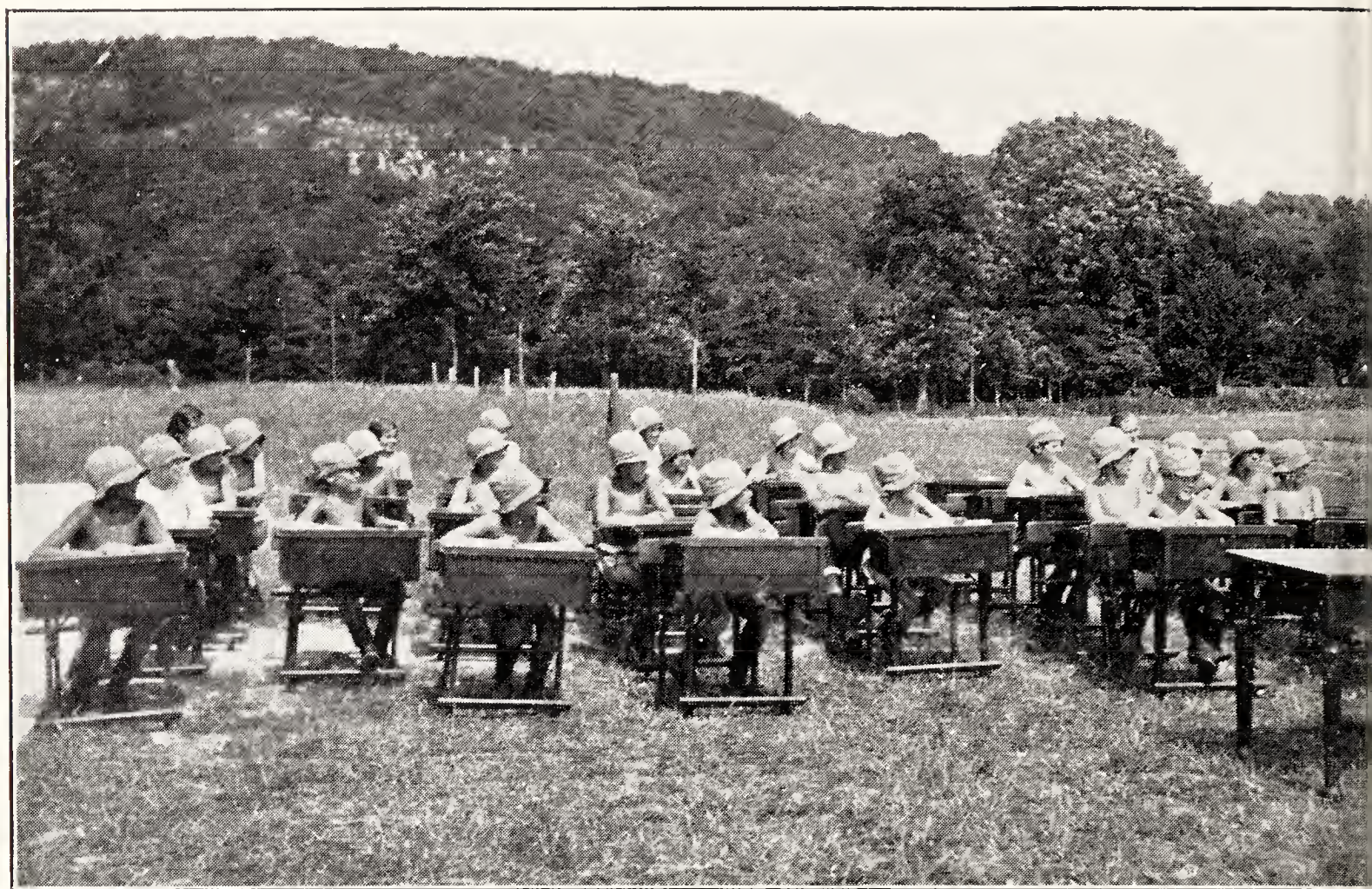
The ultimate duration of exposure depends on the season of the year, the degree of pigmentation, and the physical condition of the patient. It is rarely necessary to exceed four hours of insolation each day.

Reactions general or focal are carefully recorded and the period of insolation is varied accordingly.

following photographs show children undergoing heliotherapy :—



Typically all types of bone-joint tuberculosis are represented in this photograph.



Ambulant children attending school in the open. Each child has previously undergone graded insolation on the ward verandahs.

Rest.

The treatment of non-pulmonary tuberculosis demands not only general measures, such as heliotherapy and proper diet, but suitable graded rest. In cases of abdominal and peripheral glandular tuberculosis the necessary rest is readily obtained by confinement to bed and by the use of simple bed retention jackets.

In tuberculosis of the bones and joints the provision of efficient rest for the diseased joint or bone is of the essence of treatment in order to promote healing and to eliminate and correct deformity. Rest is obtained by the use of splints, and the type of splint selected is determined by the localisation and the stage of the disease.

During the acute stage, when the joint is inflamed and sensitive, the child is immobilised in bed by means of splintage, which ensures fixation with the bones of the diseased joint in a carefully selected position—a position which will ultimately give the optimum functional result for the particular joint affected. The duration of this stage of treatment varies within wide limits, and is related to the localisation and virulence of the disease and to the reparative powers of the patient.

The stage of convalescence is marked by reduction in inflammation and by recalcification of bone, and in the average case should be reached after 12 to 24 months of treatment. Immobilisation in the attitude of selection remains a cardinal part of treatment, but the form of splint and the degree of immobilisation varies from that required during the acute phase of the illness.

When all evidence of disease activity has ceased permanent immobilisation is not necessary and greater freedom is allowed. Ambulatory treatment with the joint or bone protected by suitable ambulatory splints constitutes the final stage of treatment, but before discharge the stability of the healed joint is thoroughly tested by a gradual extension of ambulatory exercises.

The efficiency of fixation is at all stages the first consideration, but in the construction of splints allowance is made for the maximum exposure of the child to air and sunlight.

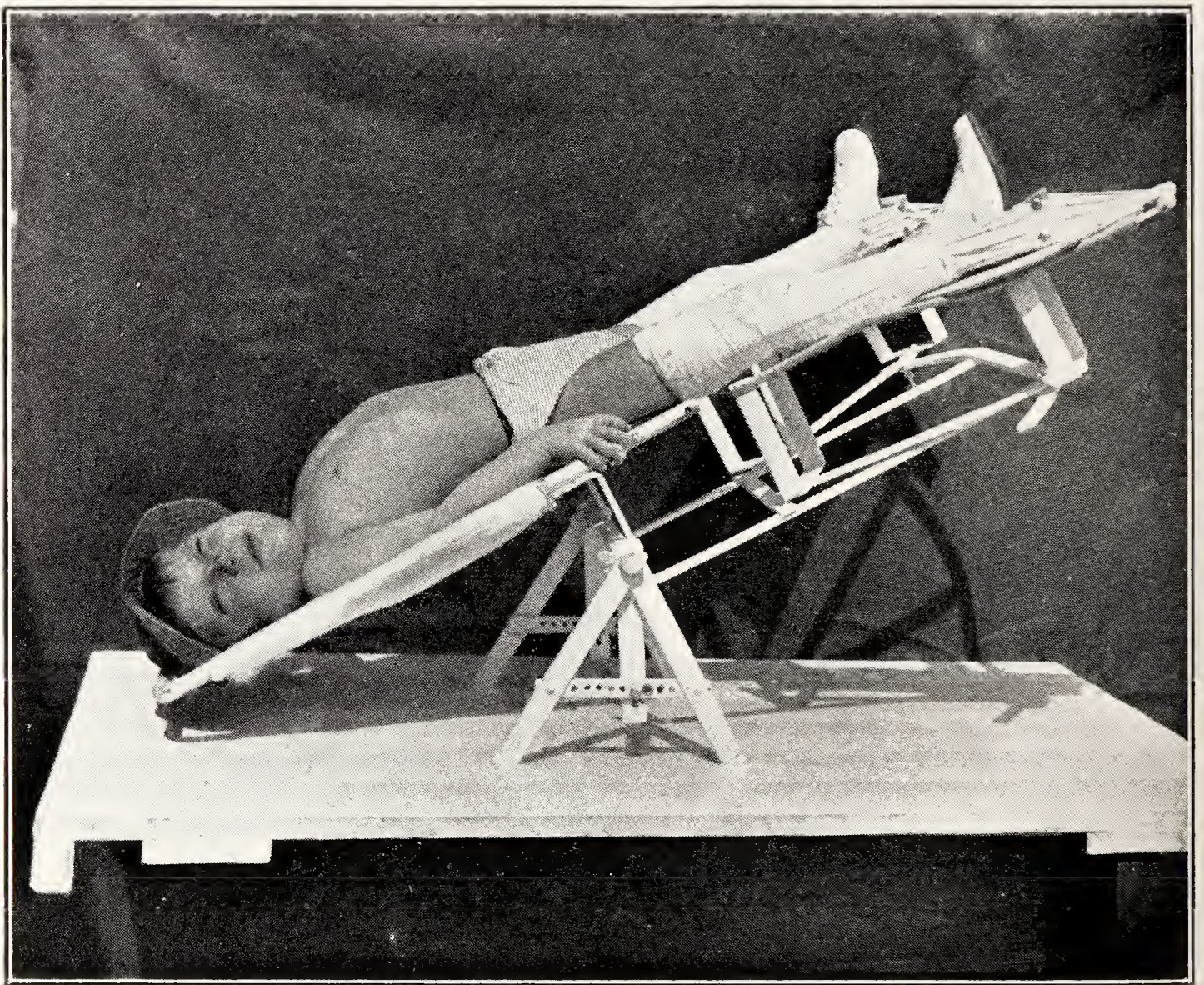
Splints.

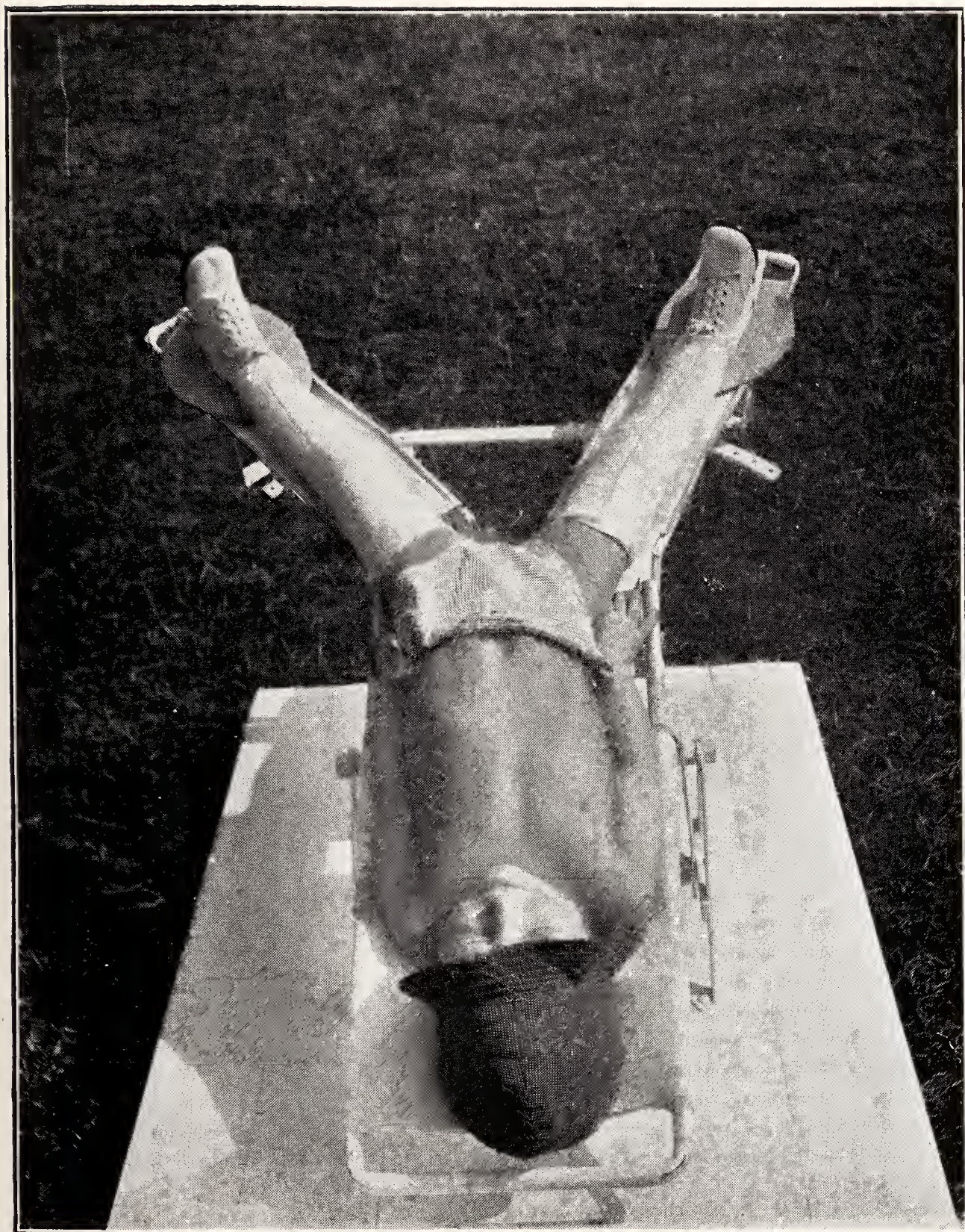
The construction of all splints is undertaken in the sanatorium and the excellent provision made for splint work has been utilised to its maximum extent.

It is not possible within the compass of this report to do more than refer to one or two splints to which special attention has been given during the year.

The fixation of babies with acute disease of the hip joint is most difficult. There is the particular difficulty of reconciling the frequent nursing attention necessary with satisfactory fixation. Careful consideration has been given to this problem, and a splint has been devised, modelled on the Pyrford Frame, which facilitates nursing and to a large extent eliminates the difficulties inherent to this problem. The frame is fixed to a horizontal bar on which it can be tilted to any desired angle. The degree of extension on the hip joint is under exact control, and in severe cases, complicated by subluxation of the joint, the energetic extension required is obtained by tilting the frame to an extreme angle. The body provides the necessary counter-weight. As in the Pyrford Frame, the leg pieces are moveable to permit of the desired degree of abduction of the joint, and a buttock flap of duralumin enables the necessary nursing attention to be given without disturbing the child or altering his position.

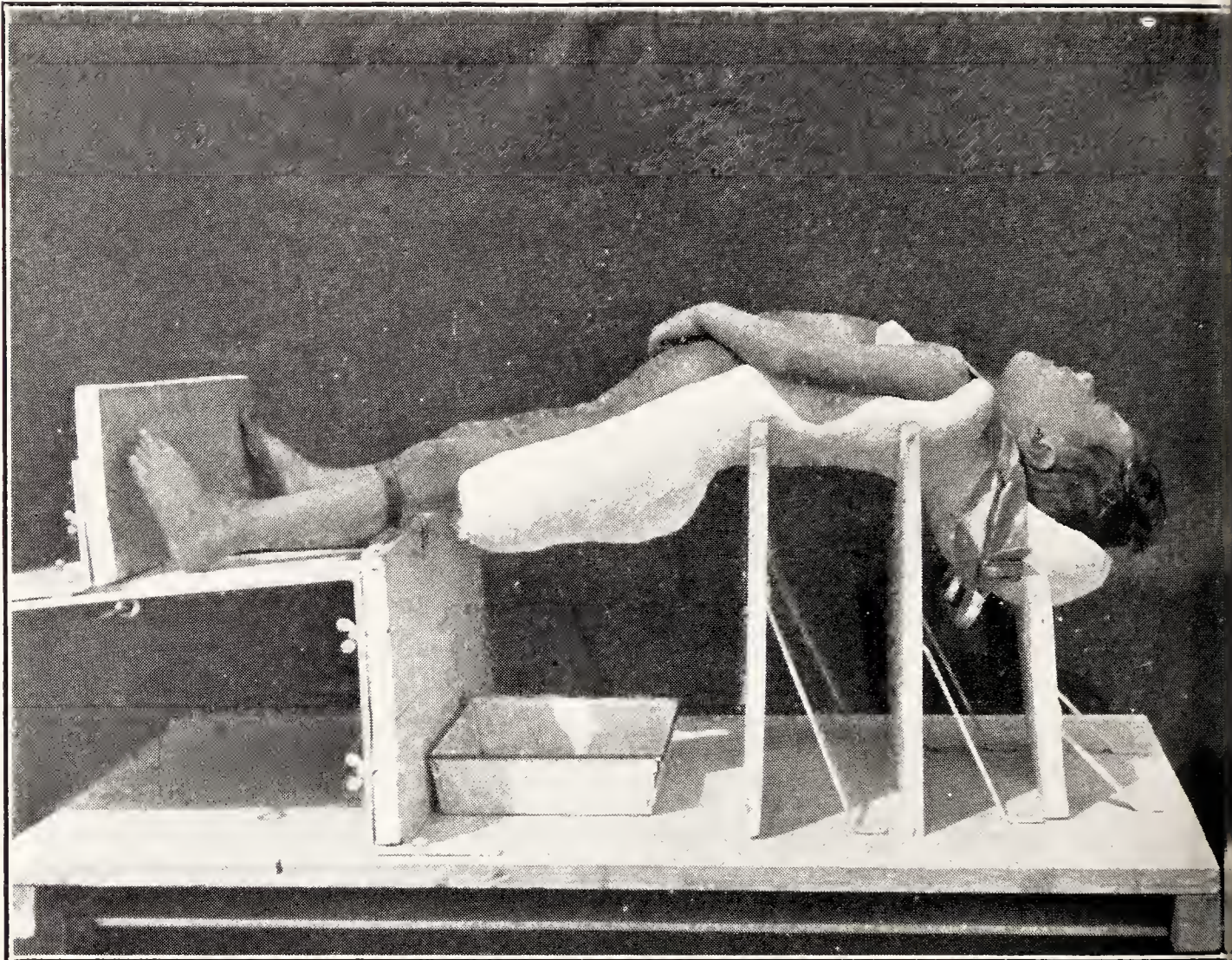
The frame is illustrated in the following photographs. The fixation obtained is efficient and facilities for heliotherapy are not sacrificed to any appreciable extent.





Attention has also been given to the construction of a plaster bed for cases of spinal tuberculosis in young children. The bed provides exact immobilisation in a position of hyper-extension of the spine. This position is of importance, as it augments the lordosis and tends to maintain a constant pressure on the gibbosity and to correct the pathological curvature. The bed is so constructed that regular leg exercises and massage are possible without interfering with the primary purpose of fixation.

The plaster bed is illustrated in the following photograph :—



In cases of spinal tuberculosis a light jacket of celluloid admirably fulfills the requirements during the ambulatory stage of treatment. It is light, easily removable, and provides satisfactory support to the area of disease.

following photographs illustrate celluloid jackets specially made for ambulant cases of (1) thorso-lumbar spinal disease, (2) cervical spinal tuberculosis, (3) high dorsal spinal disease.





Table 5 gives the number of splints constructed during the year.

TABLE 5.

Double plaster spica	..	..	..	..	..	..	62
Single plaster spica	..	..	..	..	..	..	20
Extension and knee plasters			..	..	..	..	65
Elbow plasters	..	..	..	..	..	..	1
Plaster beds	..	..	..	..	..	..	22
Plaster jackets	..	..	..	..	..	..	26
Celluloid splints	..	..	..	..	..	..	9
Modified Pyrford frames		..	..	..	..		8
Total	..	..	..	..			213

Massage and Remedial Exercises.

In the treatment of bone and joint tuberculosis the period of immobilisation is prolonged. The maintenance of muscles in proper tone and the prevention of secondary deformities in healthy joints is of importance. Remedial exercises and massage, suited to the individual requirements, constitute an important part of the daily routine of treatment. These are at present largely confined to the ambulatory stage of treatment, but are capable of a much wider application, particularly during the late convalescent stage. The House Sub-Committee will consider during the current year the appointment of a masseuse to extend the usefulness of this section of the work.

X-ray Work.

The process of healing and bone repair at all stages is observed by serial radiograms and ambulatory treatment is not commenced until all symptoms have disappeared and until the radiogram shows that new bone formation has taken place to a satisfactory degree.

Table 6 shows the number of radiograms taken during the year.

TABLE 6.
Radiograms.

Spine	124
Hips	87
Knee	70
Other bones and joints	16
Abdominal—	
Barium enema	4
Barium meal	6
Pyelograms	5
	— 15
Total	<u>312</u>

OPERATIONS.

The number of operations performed during the year was small. The work of the sanatorium is in too early a stage to report on any restorative work on deformed joints

TABLE 7.

Incision of abscess	6
Excision of knee	1
Phrenic evulsion	5
Nephrectomy	1
Sequestrotomy	1
Curettage of sinuses	2
Total	<u>16</u>

The appointment of a consulting surgeon has fully justified the action of the Committee, and I desire to record the very great advantage derived from the monthly visits of Mr. Telford.

PULMONARY TUBERCULOSIS.

The sanatorium régime with all that it implies constitutes the basis of all treatment.

Rest and exercises have been graded. The dietary has been carefully constructed, and in certain of the T.B. minus cases heliotherapy has been used with care and with value.

Treatment by Artificial Pneumothorax.

Successful inductions	.. .. .	2
Unsuccessful	.. .. .	3
Refills	.. .. .	46

<i>Treatment by phrenic evulsion</i>	2
--------------------------------------	---------	---

Sanocrysin was administered in five cases.

The number of pulmonary radiograms taken during the year was 151.

The importance of the co-ordination of clinical, tuberculin, and radiological findings in T.B. minus cases in children is being kept in view. These records are not at present sufficiently comprehensive to justify any report, but it is hoped at a later date to contribute information on the subject of thoracic tuberculosis in children.

In the consideration of juvenile thoracic tuberculosis the following factors are carefully investigated :—

1. Radiographic evidence of tracheo-bronchial nodules perihilar infiltration, or primary nodules in the parenchyma.
The pulmonary radiogram (antero-posterior and oblique) in children is of great value but it has definite limitations, and in the Mantoux positive child its interpretation demands great care.
2. Tuberculin reactivity. The intradermal tuberculin test is carried out in all cases with the exception of T.B. plus cases.
3. Sedimentation rate of red blood corpuscles.
4. History of exposure to a case of open pulmonary tuberculosis.
5. Physical signs.
6. Symptoms.

An additional radiological classification was made, as follows, of 34 of the 40 T.B. minus cases in children admitted during the year :—

Primary lung focus in association with involvement of the tracheo-bronchial glands	3 (7·5%)
Tracheo-bronchial glands	18 (45 %)
Tracheo-bronchial glands with evidence of intra-pulmonary disease	13 (32·5%)

The figures in brackets show the percentage in each group of the total T.B. minus cases.

The result of the intradermal tuberculin test in these children was as follows :—

Tuberculin Dilutions (Old Tuberculin)	Number of Patients Reacting	
I—I,000	27
I— 100	4
I— 20	3

Three children admitted under the classification “T.B. Minus” were ultimately classified as non-tuberculous bronchiectasis, and in 3 other cases the radiological appearances were not sufficiently pronounced for their inclusion in any of the 3 groups.

Dental Treatment.

Dental treatment commenced on the 14th April, 1932. The dental surgeon (Mr. A. Smith) visits the Sanatorium once a fortnight, and in addition to the work detailed below, he instructs the children at regular intervals on the proper care of the teeth.

The following table shows the condition of the teeth of children in residence at the beginning of the year and admitted during the year :—

Age Group	All Teeth in Good Condition	One to Four Defective Teeth	Over Four Defective Teeth
1-6	16	16	13
6-15	18	109	70
Totals	34 (14·1%)	125 (51·6%)	83 (34·3%)

At the end of the year there remained only 17 children in whom dental treatment had not been completed.

The amount of dental work performed during the year is shown below :—

Visits	15
Extractions	389
Fillings	65

Infectious Illnesses.

During the year the following cases of infectious illness occurred :—

	Children	Staff
Diphtheria	1	2
Scarlet fever	1	1
Chickenpox	1	—
Parotitis.. .. .	1	—

The incidence of infectious illness has been low, but the importance of protection by immunisation, so that as far as is possible acute fevers will be eliminated, is obvious and is receiving attention during the current year.

Laboratory Work.

A list is appended of the various specimens examined in the laboratory during the year :—

TABLE 8.

Fæces	12
Urine	380
Sputum	1,460
Gastric contents (analyses)	4
Gastric contents (tubercle bacilli)	15
Pleural fluid	4
Cerebro-spinal fluid	2
Pus	6
Throat smears	20
Nasal smears	1
<hr/>	
Total	<u>1,904</u>

These figures relate to specimens examined from both the adult section and the children's section of the Sanatorium.

Research Work.

In recent years an enzyme “phosphatase ” present in blood plasma and concerned in the ossification of bone by the deposition of calcium phosphate has been investigated. The amount of this enzyme in the blood plasma was found to be enormously increased in generalised bone diseases such as osteitis deformans.

No investigation of this blood enzyme has apparently been carried out in cases of bone and joint tuberculosis.

Dr. Murray is at present investigating this problem. The result of this work will be described in a later report.

SCHOOL.

The school was opened on the 1st February.

The school activities are grouped into four general grades, which are arranged to reconcile the activities of school work with the physical capacity of each child.

The school is visited weekly by a member of the medical staff who determines to which grade each child should be allocated. This ensures that the extent of the educational activities keeps pace with the physical progress of each child.

A record card of previous school work accompanies each child on admission to the Sanatorium, and on discharge an assessment of his scholastic attainments accompanies the clinical discharge report. Co-ordination between the school work in Manchester and Abergel is thus maintained.

I am indebted to Miss M. C. T. Evans (the head teacher) for the main facts of the following report :—

TABLE 9.
General Statistics of School Attendances.

	1st Feb. to 31st Mar.	1st April to 1st July	4th July to 30th Sept.	3rd Oct. to 31st Dec.	Totals
Average attendances (ward and schoolroom classes)	25	37	85	126	..
Admissions	41	39	66	36	182
Discharges	5	7	13	12	37
Number of sessions	78	116	88	116	398
Staff	2	3	5	7	..

School Organisation.

Classes are held in the schoolroom, manual room, and in the wards.

On admission to the school each child is given a series of tests to ascertain his mental ability.

The teaching is at first individual, but later the child becomes a member of a group according to his progress. The group receives weekly assignments of work and oral collective lessons. This allows the teacher to give more time to those children who are being taught individually.

Syllabus.

The general elementary school subjects are taught. Handwork is a special feature of the curriculum. Wood work, weaving, rug-making, leather work, raffia and wool work, glass painting, designing, poker work are included in this section. Concentration on the handwork subjects is good throughout.

A special feature of the school is nature study. Ample opportunity for this is given in the daily walks through the extensive grounds.

A small kitchen garden has been laid out for the use of the school children.

Records.

Record cards are written weekly for each child. All written work is examined monthly.

Discipline.

The general discipline of all children is improving. There is a decided improvement in the power of concentration and in self-control. The children are more obedient, show more initiative and originality, and take more care of school property. The keener interest shown by the children in their work is reflected in the higher tone of the school.

Additional Activities.

A May Day celebration and a Christmas concert were given by the children, for which they made fancy costumes. The children were kept occupied during the Christmas vacation on the play-centre scheme. The essence of this scheme is to interest the children by means of music and story-telling and organised outdoor and indoor games.

Guides and Scouts.

Under the direction of Miss Evans and Dr. Murray a company of girl guides and a brownie pack and a troop of boy scouts and wolf cubs have been formed. The scouts won the Abergele and District inter-patrol shield for 1933—an excellent effort. Guide and scout work is carried out on Saturday mornings and is a very valuable addition to the educational work.

Lectures to Nurses.

In continuance of the course of training, lectures to probationer nurses have been given throughout the year by members of the medical and nursing staff

All probationer nurses must attend lectures.

The course of training covers a period of two years, and a certificate is awarded by the Public Health Committee to candidates who pass the examinations.

The first examination was held on the 14th and 19th July, 1932. The number of candidates was 12 and all were successful in this examination.

The external examiners were :—

Miss L. G. Duff Grant, Lady Superintendent of Nurses,
Manchester Royal Infirmary ; and

E. S. Brentnall, Esq., M.B., CH.B., F.R.C.S.,
Vis. Orthop., Surg., Withington Hospital and Crumpsall Hospital,
Manchester.

Hon. Orthop., Surg., Stockport Infirmary.

Orthop. Surg., Lancs. C.C.

Surg., Biddulph Grange Orthop. Hospital, Staffs.

Hon. Asst. Surg., Ethel Hedley Hospital.

GENERAL NOTES.

The Sanatorium was visited during the year by the ladies attending the annual conference of the Institute of Public Cleansing and by the members of the Upper Brook Street Women's Co-operative Guild.

The annual meeting of the North-Western Tuberculosis Society was held at the Sanatorium in June.

In accordance with the original scheme the north wall of the children's dining room was decorated with paintings representing nursery rhymes. These have been a source of interest and delight to the children, and have added considerably to the appearance of this room. The work was carried out under the direction of Mr. Dawson, Principal of the Manchester Municipal School of Art.

The Pen-y-Coed Bungalow was reconstructed for use as a residence for the head teacher of the school.

The Vicar of Avertele (Rev. H. R. Hughes, M.A.) and ministers of the local Nonconformist churches have visited the Sanatorium regularly throughout the year. Services have been held at Plas Uchaf and at the new Sanatorium.

Interview of Parents in Manchester.

Regular visits by parents to the Sanatorium are in many instances precluded by the distance of Abergele from Manchester. It was the desire of the House Sub-Committee that parents should be afforded every facility for determining the progress of their children.

This object has been achieved by monthly visits of the Medical Superintendent to Manchester for the purpose of interviewing parents. These visits have proved to be of real value, and the average number of parents taking advantage each month of this arrangement is 83.

ESTATE.

During the year the afforestation of the estate was further developed, and the following trees were planted :—

Transferred from Nursery.

Scots fir	..	..	..	..	..	..	..	..	..	4,000
Norway spruce	..	..	..	..	..	..	..	..	..	675
Douglas fir	..	..	..	..	..	..	..	..	..	650
Sitka spruce	..	..	..	..	..	..	..	..	..	2,500
										<hr/>
										7,825
										<hr/>

Trees Purchased.

Sitka spruce	..	..	..	..	..	..	..	..	..	250
Douglas fir	..	..	..	..	..	..	..	..	..	1,000
										<hr/>
										1,250
										<hr/>

The work of the year was largely concerned with filling up in the older plantations, but two new plantations were laid out at Pen-y-Craig and at Pen-y-Coed.

Towards the end of the year afforestation work was commenced on the west face of Tower Hill.

FARM.

The work of the farm has been concerned largely with the development of the dairy herd, and at the end of the year the stock of milking cows was 36.

The milk is produced under environmental conditions similar to those required under the Milk (Special Designation) Order, 1923, for Grade A milk. In addition, a fortnightly clinical veterinary examination of the herd is carried out, with monthly examination of a bulk milk sample for general bacteriological content and for the presence of tubercle bacilli.

A separate sample of milk is examined from each cow newly introduced into the herd.

The general policy of the farm has been altered during the year in respect of the amount of acreage under cultivation. The area has been kept at a minimum consistent with the maintenance of the land in good condition,

The pig herd has been reduced from 120 to 80 and a further reduction may be necessary. The size of the herd will be determined by the amount of swill available.

Apart from sheep for winter grazing no store cattle have been purchased during the year.

The quantity and value of transfers from the farm to the Sanatorium during the year were as follows :—

		£
Milk	22,650 gallons	1,690
Potatoes	10 tons	83
Turnips	8 cwts.	1
Fowls	56	25
Pork	566 lbs.	19
Eggs	16,876	89
Total value of transfers.. .. .		<u>£1,907</u>

GARDENS.

The new kitchen garden of seven acres was brought under full cultivation during the year. The greenhouses were in full use for the propagation of plants and the cultivation of vegetables.

In addition to the work in the kitchen garden the grounds of the new sanatorium have been developed, and certain of the grass lands round the sanatorium buildings have been converted into lawns.

A small kitchen garden was laid out for the use of the school children.
The transfers from the Garden to the Sanatorium during the year were as follows :—

Apples	2,557 lbs.	Onions	168 bunches
Beans	1,132 „	Potatoes	21,860 lbs.
Beetroot.. .. .	1,773 „	Pears	67 „
Black Currants ..	289 „	Plums	66 „
Broccoli	125 doz.	Parsnips	1,722 „
Cabbages	873 „	Peas.. .. .	1,152 „
Cucumbers	169 „	Rhubarb	2,548 bunches
Cauliflower	29 „	Radishes	366 „
Celery	347 bunches	Raspberries	133 lbs.
Carrots	992 lbs.	Strawberries	79 „
Gooseberries	474 „	Swedes	778 „
Greens	860 „	Sprouts	886 „
Kale	1,532 „	Savoys	132 doz.
Leeks	810 „	Tomatoes	491 lbs.
Lettuce	183 doz.	Turnips	812 bunches
Marrows	1,414 lbs.		
Approximate value of transfers		£433	

BAGULEY SANATORIUM.

BY DR. H. G. TRAYER, MEDICAL SUPERINTENDENT.

The number of available beds was 333.

The number of patients admitted was 532, the daily average number of beds occupied being 325·45.

The following table gives the number of admissions, discharges, etc., for the year 1932, compared with the previous four years :—

	1928	1929	1930	1931	1932
Number of patients :—					
In hospital, 1st January	315	316	329	300	309
Admitted during the year ..	675	713	599	533	532
Discharged during the year ..	506	469	442	377	362
Died during the year	168	231	186	147	168
Total treated during the year ..	990	1,029	928	833	841
Remaining in hospital, 31st Dec.	316	329	300	309	311
Daily average number of beds occupied	326·93	326·42	325·6	325·53	325·45
Average length of stay of patients discharged :—					
Males (days)	172·02	158·93	188·01	174·4	167·55
Females „	164·75	188·15	208·1	214·74	252·74
Average length of time in hospital of fatal cases :—					
Males (days)	156·61	212·51	159·4	144·12	206·02
Females „	207·58	203·04	206·36	263·25	165·1
Case mortality	16·97	22·41	20·04	17·64	19·97

Cases admitted from the districts of the Bucklow Joint Hospital Board are included in all totals given in this report. The details of such cases are :—

On 1st January, 1932, there were five patients in the sanatorium; ten patients were admitted during the period, four patients were discharged, and six died; five patients remained in the hospital on 31st December.

Pathological Laboratory Report.

Number of specimens of sputum examined	3,179
Number of specimens found to be positive	1,354
Number of specimens found to be negative.. ..	1,825

The modification by Andrus and MacMahon of Pettenger's method for examining consistently negative sputum cases has proved of much value. Out of 107 consistently negative results by ordinary methods of staining, 18 showed the presence of tubercle bacilli by this special test.

Other examinations :—

Special examination of urine	2
Pus	8
Cerebro-spinal fluid	6
Pleural effusion	4

(In the examinations tubercle bacilli were found in the following :—Urine 1, pus 5, cerebro-spinal fluid 4.)

As in former years, a large number of Wassermann reactions were carried out by the Public Health Laboratory.

During the year Dr. J. Cribbin, Assistant Medical Officer, carried out an investigation into the work of Lowenstein in the culture of tubercle bacilli directly from the blood. The series consisted of 17 very advanced cases of pulmonary tuberculosis with marked toxæmic symptoms, where tubercle bacilli had repeatedly been demonstrated in the sputum. Thirteen of these cases died within five months from the commencement of investigations, which clearly shows how very advanced the type of case was. In all, 190 tubes of culture medium were inoculated with the washed and centrifuged bloods from these cases. The blood-culture media used were those of Lowenstein, Hohn, and Schwabacher, 90 tubes of Lowenstein and 50 tubes each of the two other media. Each patient's blood, taken at intervals of a few days, was, following treatment as described below, planted on medium in three to eight tubes. The utilisation of the three media made it possible to have the blood of each patient incubated on all three media at some time during the course of the investigation. In only those patients who died in too short a time were less than five separate cultures put up. Control tubes of the three media were inoculated with tubercle bacilli from stock cultures with a resulting satisfactory growth.

The technique used for preparing the blood was as follows :—

(1) Ten c.c. blood received into 2 c.c. 10 per cent. sterile solution of sodium citrate ; (2) mixture centrifuged and decanted ; (3) blood laked with a few c.c. 5 per cent. acetic acid ; (4) mixture again centrifuged and repeatedly washed with sterile distilled water until hæmoglobin free ; (5) resulting sediment (brownish) was taken up in wide capillary tubes and spread over the medium in 3—8 tubes (1in. diameter).

Cultures were examined microscopically from time to time, and any suspicious looking growths occurring in any of the tubes were immediately filmed and examined. All tubes at the end of six weeks' stay in the incubator were subjected to microscopic examination and finally examined at the end of *four* months.

The results in all cases were negative.

This conclusion, though opposed to that of Lowenstein and other Continental workers, supports the majority of investigators in this country.

X-Ray Report.

Number of patients screened	1,295
Number of skiagrams taken	468

Dental Report.

Patients seen	324
Fillings	2
Extractions	319
Dentures	2
Repairs and adjustments to dentures	2

In addition, the dentist has paid numerous visits to the wards for the purpose of examining the mouths of bed-patients. .

RETURN SHOWING THE IMMEDIATE RESULTS OF TREATMENT OF PATIENTS
SUFFERING FROM PULMONARY TUBERCULOSIS AND OF OBSERVATION OF
DOUBTFUL CASES DISCHARGED DURING THE YEAR.

[illegible]

[illegible]

Classification on Admission	Age at Discharge	Condition on Discharge	Duration of Stay										Positive Sputum on Admission— Negative on Discharge
			Under 3 months		3—6 months		6—12 months		More than 12 months		Total		
			M.	F.	M.	F.	M.	F.	M.	F.			
T.B. US, JP II.	Ages 15—24	Quiescent	1	..	1	22	
		Improved ..	1	..	4	4	5	5	10	4	33		
		Stationary ..	5	1	1	..	1	1	..	1	10		
		Worse .. ..	..	2	..	1	1	..	..	1	5
		Died	1	1	..	1	2	2	4	2	13		
	Ages 25—34	Quiescent	17	
		Improved ..	7	2	3	4	4	1	2	3	26		
		Stationary ..	1	1	..	..	1	1	..	2	6
		Worse .. ..	..	..	..	2	1	..	..	3	6
		Died .. ..	..	..	..	..	3	1	3	..	7
	Ages 35—44	Quiescent	1	1	7	
		Improved ..	9	1	8	..	6	1	2	2	29		
		Stationary ..	3	2	2	1	1	..	..	..	9
		Worse .. ..	..	..	2	..	1	..	1	..	4
		Died .. ..	..	..	1	..	2	..	..	..	3
	Ages 45—54	Quiescent	11	
		Improved ..	5	1	6	2	5	..	3	2	24		
		Stationary ..	2	1	1	..	..	..	..	..	4
		Worse .. ..	..	..	1	..	..	..	1	..	2
		Died	1	..	1	..	2	..	3	1	8		
Ages 55 and over	Quiescent ..	..	..	..	..	..	..	..	..	..	2
	Improved ..	1	..	..	..	2	..	2	..	5	
	Stationary ..	1	1	1	..	..	..	..	..	3	
	Worse	2	..	..	..	..	..	..	..	2	
	Died	1	..	1	..	..	..	3	..	5	

Classification on Admission	Age at Discharge	Condition on Discharge	Duration of Stay								Total	Five Sp. Adl. Neg. Di.
			Under 3 months		3—6 months		6—12 months		More than 12 months			
			M.	F.	M.	F.	M.	F.	M.	F.		
CLASS T.B. PLUS, GROUP III.	Ages 15—24	Quiescent
		Improved ..	..	..	..	..	..	2	1	2	5
		Stationary ..	1	3	..	..	1	..	..	3	8
		Worse .. ..	..	1	1	1	..	4	..	2	9
		Died	9	10	4	8	3	5	2	2	43	
	Ages 25—34	Quiescent
		Improved ..	4	1	2	..	1	..	..	..	8
		Stationary ..	4	3	1	3	1	2	..	..	14
		Worse	3	1	2	1	..	..	..	2	9
		Died	11	7	3	4	1	1	2	1	30	
	Ages 35—44	Quiescent
		Improved ..	..	..	..	..	1	..	..	..	1
		Stationary ..	1	..	..	..	..	..	1	..	2
		Worse	1	1	3	..	1	..	2	..	8	
		Died	10	6	2	1	4	2	1	1	27	
	Ages 45—54	Quiescent
		Improved ..	2	1	2	2	..	..	..	2	9
		Stationary ..	4	..	1	1	1	1	..	..	8
		Worse	2	..	1	1	1	..	..	..	5
		Died	10	1	1	1	1	..	..	..	14
	Ages 55 and over	Quiescent
		Improved ..	1	..	1	..	2	..	..	..	4
		Stationary ..	..	..	4	..	..	..	1	..	5
		Worse .. ..	..	..	..	..	..	..	1	..	1
		Died	10	..	..	1	..	..	1	..	12

Summary of Tables.

Classification	Condition on Discharge				
	Quiescent	Improved	Stationary	Worse	Died
Class T.B. Minus	6	36	8	3	1
T.B. Plus, Group I. ..	1	4	1	..	1
T.B. Plus, Group II. ..	2	117	32	19	36
T.B. Plus, Group III...	..	27	37	32	126
Total	9	184	78	54	164

Observation Cases.

Diagnosis on Discharge from Observation	Stay under four weeks		Stay over four weeks		Totals	
	M.	F.	M.	F.	M.	F.
Tuberculous .. .. .	..	2	2	1	2	3
Non-tuberculous	9	10	12	5	21	15
Doubtful	3	1	1	..	4	1

Four deaths (two males and two females) occurred among cases not accepted as suffering from pulmonary tuberculosis. The particulars in respect of these deaths, in three cases confirmed by post-mortem examination, are as follows :—

Age	Sex	Cause of Death
50	M.	Carcinoma of the right bronchus, involving the collapsed right lung and mediastinum.
25	M.	Lymphadenoma (involving spleen, peritoneum, pancreas and bronchial glands).
34	F.	Congenital cystic disease of the kidneys.
22	F.	Polyserositis.

Patients.

Lectures have been given as in former years, and it is hoped that one of the chief advantages to accrue from the new hall is that these lectures will be more easily arranged than hitherto.

Special Methods of Treatment.

Artificial Pneumothorax :—

(a) Successful	44
(b) Abandoned	17
(c) Unsuccessful inductions	12
Total	<u>73</u>

Phrenic Evulsion :—

During the last eighteen months 12 cases had this surgical procedure, and the following brief summary is given (all cases were sputum positive) :—

Reason for Phrenic Evulsion	No.	Sputum	Progress	Average length of which elapsed before induction of Artificial Pneumothorax or Phrenic Evulsion
Failure to induce Artificial Pneumothorax	4	No change 3 Became negative 1	No appreciable improvement 3 Improved 1	}
To assist collapse of partial Artificial Pneumothorax	5	No change 3 Became negative 1 No sputum 1	No appreciable improvement 1 Died 1 Improved 2 Improved and working.... 1	
Re-expansion of Lung..	3	No change 2 Became negative 1	Died 1 Improved 1 Improved and working.... 1	} 16 months

In ten of the cases this procedure was carried out on the left side and in two cases on the right.

In this small series of cases there has been definite improvement in six and the positive sputum has been altered as a result of the operation in four.

Occupational Therapy.

The past year has shown continued progress. In September Miss Reedman succeeded Miss Clark, who had inaugurated the scheme for female patients.

A most comfortable and attractive looking fireside chair, made by the carpentry section, has proved a commercial success.

The need for a wider market becomes more pressing each year, though a more concentrated effort on the production of Christmas and New Year gifts has met with a fair amount of success, and it is hoped that this will be capable of expansion so that it will absorb the products of many months' occupation.

Improvements.

The combined Chapel and Recreation Hall was finished late in the year, but will not be fully available for its many uses until early in the New Year.

Details of the building are as follows:—

It stands on the north side of the sanatorium and is built of red Ruabon brick. The building covers an area of 134ft. by 44ft. Inside fittings include at the west end a stage complete with green room and dressing rooms, cellars for the storing of a cinema screen and scenery; a portion of one cellar has steam tea and coffee percolators, washing-up facilities, and a service lift to the green room. There is a sunk orchestra pit in front of the stage. The floor space in the hall is 77ft. by 40ft. The centre of the floor is sprung. Loud speakers connected to the central wireless receiving set are provided. At the east end is a chancel that can be completely closed off by roller shutters, and on each side are vestries complete with sanitary conveniences. Outside the building over the chancel is the operator's box for a talkie apparatus. The hall itself can seat 400, and at the chancel end twelve monks' benches, made in the carpentry section, provide a fitting atmosphere when services are being held.

Recreation.

Even though space has to be considered in this report, it would be discourteous and ungrateful not to take the opportunity of recording the sincere thanks of the patients and the staff to the many artistes who have given so freely of their services to entertain them during the past year. Full recognition is given to the Nurses' Concert Party, who so cheerfully and willingly gave of their time in order to produce their annual concert (which was the first entertainment to be given in the new hall), items from which were repeated in the various wards on Christmas Day.

Staff.

Members of the nursing staff now fully recognise the importance of obtaining the Certificate of the Tuberculosis Association, and during the period under review the number passing in Part I. was five, and in Part II., ten.

In concluding this very brief record of the work of this sanatorium for the year 1932, I take the opportunity to express my thanks to all members of the staff for their loyal and willing co-operation in the care of the patients and in maintaining that atmosphere of happiness which is so frequently commented upon by visitors to the sanatorium.

REPORT ON THE WORK OF THE MIDWIVES' DEPARTMENT FOR 1932.

The Department deals with :—

- A. THE INSPECTION OF MIDWIVES under the Midwives Acts, 1902-1926.
- B. DOMICILIARY NURSING VISITS TO MOTHERS AND BABIES, in connection with schemes for maternity and child welfare under the Maternity and Child Welfare Act, 1918.
- C. THE INVESTIGATION OF CASES OF—
 - (i.) Maternal death.
 - (ii.) Puerperal fever and pyrexia.
 - (iii.) Stillbirth and neo-natal death in midwives' practices.
 - (iv.) Pemphigus neonatorum.

STAFF—

Inspector of Midwives.

Assistant Inspector of Midwives.

4 Maternity Nurses.

3 Ophthalmic Nurses. (See special report.)

A. Inspection of Midwives.

Total registered births for the City (adjusted figure)—

Live births	.. .. .	11,814	
Still births	.. .. .	561	
		<hr/>	12,375
Total notified births (live and still-unadjusted figure)	..		<u>13,114</u>

Occurrence of Notified Births.

(1) Births at Home.

(i.) Taken by midwives, including cases in which midwife acts as maternity nurse (figures based on yearly return of cases made by midwives to L.S.A.)	.. .. .	5,881	
(ii.) Taken by doctors, no midwife present..	..	240	
(iii.) Taken by St. Mary's Hospital District Staff in Manchester Area	.. .. .	1,061	
		<hr/>	<u>7,182</u>

(2) Births in Institutions.

(i.) Hospitals	.. .. .	5,107	
(ii.) Maternity homes registered under Nursing Homes Registration Act, 1927	.. .. .	825	
		<hr/>	<u>5,932</u>
			<u>13,114</u>

Number of Midwives in Practice.

208 midwives gave notice of intention to practice January, 1932. Of the independent practising midwives, during the year 5 gave up work and 6 new midwives started to practice.

187 midwives notified their intention of doing domiciliary practice.

91.2 per cent. of all the available cases were taken by the 116 independent midwives residing in Manchester. These cases were distributed among them as follows :—

TABLE I.

	Number of Midwives	Number of Cases taken	Per cent. of Total Number of Cases	Average Number of Cases per Midwife
Practices of over 100 cases per annum	12	1,608	30.2	134 (5 of these midwives take out a pupil)
Under 100, over 50	26	1,925	36.3	61.7
Between 20 and 50	45	1,537	28.9	34.0
Under 20	33	247	4.6	7.4

55 of these 116 practices, or 47 per cent. of them, have been started within the last 10 years, only 3 of which take over 100 cases per annum, and 9 take between 50 and 100 cases. 23 practices serve new property, 1 of which takes over 100 cases, and 4 take between 50 and 100 cases. About 36 only of all the independent midwives in practice depend principally upon midwifery for a living.

TABLE II.
ANALYSIS OF CASES TAKEN BY MIDWIVES.

Midwives giving notice of intention to practice in the Manchester Area	Number of Midwives	Midwife only at the Case		Midwife with Doctor called in		Midwife as Maternity Nurse	Total Number of Cases	Per cent. of Notified Births	Per cent. of Registered Live Births
		Primi-paræ	Multi-paræ	Primi-paræ	Multi-paræ				
1. BIRTHS AT HOME.									
Independent Midwives—									
(a) Certificated (Manchester Area)	114	798	2,973	284	476	739	5,270	40.18	44.6
(b) Bona-fide (Manchester Area)	2	7	23	4	1	12	47	0.35	0.39
(c) Certificated (Manchester Area), do no work	11	..	..	..	..	..	..	..	..
(d) Certificated (reside outside Manchester)	21	24	135	27	28	27	241	1.83	2.03
(e) Certificated (reside outside Manchester), do no work ..	5	..	..	..	..	..	..	..	..
Midwives employed by Nursing Associations :—									
Manchester	20	38	171	17	25	72	323	2.46	2.73
Salford	4								
Cheshire County Nursing Assoc'n	6								
2. BIRTHS IN INSTITUTIONS.									
Midwives employed in registered Maternity Homes taking midwifery cases only and having no resident medical practitioner..	25	217	155	44	27	167	610	4.62	5.16
	208	1,084	3,457	376	557	1,017	6,491	49.49	54.91

Distribution of all Domiciliary Cases (based on notified births).

	Per cent. Notified Births
7,182 births took place in domiciliary practice ..	= 54.76

Distributed as follows :—

See Table II.—

Midwives only at the birth	4,169 = 31.79
Registered medical practitioner summoned by midwife under C.M.B. rules and present at birth	862
Registered medical practitioner with midwife as maternity nurse	850
Registered medical practitioner alone	240
Hospital District Service	1,061 = 8.09

Changes in proportion of cases taken by midwives and midwives acting as maternity nurses, calculated on registered live births :—

	Per cent.
1929	60.26
1930	52.88
1931	56.75
1932	54.94

Supervision and Instruction of Midwives.

Midwives were suspended from work on 88 occasions on account of contact with infection or being themselves liable to be a source of infection.

There has been a steady fall in the number of suspensions during the last few years. As there is a staff of trained nurses available to take over their cases, midwives are encouraged to report cases with raised temperature before they become notifiable under the Puerperal Pyrexia Regulations.

Suspensions.

1929	223 = 2.83 per 100 cases taken.
1930	165 = 2.27 „ „
1931	129 = 1.85 „ „
1932	88 = 1.35 „ „

No serious breach of the Rules of the Central Midwives Board has occurred during the year.

From July 1st, 1932, in order to assist in research work into puerperal fever undertaken by Dr. Phyllis M. Congdon, the throat and nose of every midwife concerned with a case of puerperal pyrexia has been swabbed by one of the Inspectors of Midwives. Hæmolytic streptococci were found in 2 cases and in 2 other cases the patient, but not the midwife, gave a positive result. No case died.

The midwife is suspended for disinfection in the usual way, but is not suspended as a result of the positive swab unless there is reason to suspect a definite causal relationship between her germ and the patient's fever.

The midwife is informed of the result and advised to wear a mask of the pattern recommended on page 108 of the Final Report of the Maternal Mortality Committee, and is asked to ring up the Inspector of Midwives for advice if there is any suspicious rise of pulse or temperature in other patients.

In no case has a related puerperal pyrexia been reported.

During 1932 practising midwives have been permitted, on application to the Inspector of Midwives, to carry sedative drugs for use in the first stage of labour. The Inspector satisfies herself that the midwife's knowledge and standard of practice is adequate, and personal instruction and a leaflet on suitable drugs have been given to each midwife. The results have been encouraging, as contributing towards less painful labour for the mother.

A series of post-graduate lectures given by specialists, in the spring and autumn, were much appreciated by the midwives and well attended,

6 midwives are approved by the Board to take pupil midwives for district experience.

Payment to midwives by the Local Authority is made as follows :—

1. Under the Midwives Act, 1926, section 2 (1), for loss of
work during suspension—14 claims
(Included compensation paid to a midwife suffering
from active tuberculosis and suspended until she could be
taken into a sanatorium.)
2. For non-booked cases taken as emergencies (including
abortion)—9 claims
3. By resolution of the City Council, August 3rd, 1932,
10/- may be paid to a midwife who loses her fee because
she has sent a booked case to an Infant Welfare Ante-
Natal Clinic and the case has subsequently been
transferred to hospital prior to or during delivery.
- £ s. d.
12 18 0
5 17 6

Up to the end of the year no claims had been made.

Visits made to midwives in their own homes	617
Midwives interviewed at the office	206

Records of Calling in Medical Aid.

Records of calling in medical aid in accordance with the Rules of the Central Midwives Board were sent in by 115 independent practising midwives, by midwives from District Nursing Associations, and by Registered Maternity Homes having no resident medical officer. The number of records sent and the number of applications for payment of their fee by registered medical practitioners is shown below :—

TABLE III.

	Number of Midwives' Own Cases	Number of Records Sent	Number of Records Sent per 100 Cases	Number of Applications for Payment	Number of Applications made per 100 Records
1930	6,142	3,236	52·6	1,718	53
1931	5,842	2,874	49·1	1,598	55·6
1932	5,474	2,538	46·3	1,500	59·1

It will be noticed that, although the number of records sent per 100 cases is dropping, medical aid is called in for a very high proportion of cases. Applications by medical practitioners for payment of their fee is steadily rising.

Number of cases referred by midwives to pre-maternity clinics in addition to above figures :—

1930	405 = 6·59 per cent. of their cases.
1931	338 = 5·78 „ „
1932	211 = 3·85 „ „

The next table shows how many calls for assistance were made before labour, and by whom :—

TABLE IV.

	Records sent to Doctors		Records sent to Ante-natal Clinics
	Assistance in labour and puerperium	Assistance during pregnancy	
Midwives	1,730 sent by 114 midwives	433 sent by 90 midwives	184 sent by 44 midwives
District Nursing Association ..	71	161	15
Maternity Homes	167	9	..

This does not give a true picture of the number of women delivered by midwives who attend ante-natal clinics, as in many cases the mother goes to the clinic before she books her midwife, and the written record of having referred a patient to the clinic is not in that case always sent to the Local Supervising Authority.

20·4 per cent. of all records of sending for medical aid by midwives for emergencies during labour and the puerperium were for delayed labour, and 30·4 per cent. for a ruptured perineum. This is respectively 6·5 per cent. and 9·8 per cent. of all their cases, and compares with 8·6 per cent. and 12·5 per cent. for 1931.

According to statements made by doctors when making applications for fees, forceps were applied in 187 cases, giving a forceps rate of 3·4 per cent., as against 4·4 per cent. for 1931.

It is noticeable that midwives with a high proportion of ruptured perineums often have a low rate of calling in assistance for delayed labour, and *vice versa*. The actual number of ruptured perineums is therefore probably higher than is shown, since a second record for suturing will not be sent if help has already been asked for delay.

Table V. gives an analysis of the records sent by 8 midwives taken as a fair sample of the work of the rest.

Actually the number of records sent varies between 62 per cent. and 12 per cent. of the cases taken, and the high figures are undoubtedly due in some cases to the small amount of work done by individual midwives, and in others to the fact that the midwife is new and uncertain of herself. None of the 8 midwives selected for inclusion in the table are new to practice. Four fairly clearly defined types of practice are shown, with 2 midwives for each, one who sends a large number of records, and the other a small one. In each case the midwife does satisfactory work. No attempt is made to draw conclusions, as more observations are needed before it is possible to dogmatise on the remarkable differences shown in the number of calls for medical assistance made by midwives.

TABLE V.

Midwife	Number of Cases taken as Midwife		Medical Records excluding Ante-natal Records		Records for 1932, excluding Ante-natal Records						Records for 1932 Ante-natal		Type of Patient	Average Cost of Medical Aid per Case
					Ruptured Perineum	Delayed Labour	Raised Temp.	Unsatisfactory Mother	Eyes	To Doctor	To Antenatal Clinic			
	1931	1932	1931	1932										
A ..	129	148	73·6	60·8	12	21	1	15	9	77	24	Poor, City area	s. d. 7 2	
B ..	191	216	32·4	20·3	10	4	1	2	2	5	0	Mostly poor, City area	2 6	
C ..	118	121	23·7	14·8	5	6	..	1	1	..	11	Fairly well-to-do, some poor, old property	0 11	
D ..	164	88	78·0	77·2	8	16	2	7	12	14	2	Some very poor, some well-to-do, mostly old property	16 7	
E ..	121	95	21·4	14·7	6	2	..	..	1	12	12	New property, good class	3 8
F ..	32	41	46·8	63·6	10	4	1	..	2	2	6	New property, fairly good class	6 8	
G ..	31	32	3·2	18·7	..	2	1	..	..	..	..	Comfortable working class. Old property	2 3
H ..	16	17	50·0	88·2	2	2	..	2	..	6	..	Comfortable working class. Old property	5 0	

The figure given in the last column does not take account of the amount which may be recovered from families above the scale, and this may vary considerably in different neighbourhoods.

Payment of fee of the registered medical practitioner called in by the midwife, in accordance with the Rules, is made by the Local Supervising Authority under the authority of the Midwives Act, 1918, section 14 (1). The Local Supervising Authority has power to recover the fee from the patient, or husband, if they have the means to pay.

Particulars of applications from medical practitioners in 1932 for the payment of their fees :—

	1931	1932
Number of families whose incomes were below the scale ..	581	610
„ „ „ „ „ above the scale ..	880	789
„ „ „ who paid doctor themselves	24	13
Conditions not fulfilled	36	15
No account sent (see Ophthalmia Neonatorum Regulations, 1926)	77	73
Number of fees paid by the Local Supervising Authority.. ..	1,538	1,472

Provision of the Services of Consultants for Difficult Child-birth.

Second Opinion.—Under the Notification of Puerperal Fever and Puerperal Pyrexia Regulations, 1926, a second opinion on his case may be obtained by a registered medical practitioner. A fee of £3 3s. for the consultation is payable by the Public Health Committee.

	1931	1932
Applications for payment of this fee were made	19	6

Obstetric Difficulty.—In January, 1930, in connection with the Council's scheme for maternity and child welfare under the Maternity and Child Welfare Act, 1918, the provision of a consultant service was extended to allow medical practitioners to call in a consultant in the event of obstetric difficulty arising during the ante-natal period, labour, or the puerperium. The fee is fixed at £5 5s, inclusive.

	1931	1932
Applications for payment of this fee were made	12	6

Consultants must, in every case, be selected from a list of approved practitioners engaged solely in gynæcological and obstetric practice in the City of Manchester,

Payments made under the above Acts for the period January 1st to December 31st, 1932, were as follows:—

Midwives Act, 1918.

	£	s.	d.
Paid to doctors	1,851	1	6
Recovered from the patients	586	0	1

Puerperal Fever Regulations, 1926.

Paid to consultants	15	15	0
Recovered from the patients	3	3	0

Maternity and Child Welfare Act, 1918 (Difficult Labour).

Paid to consultants	42	0	0
Recovered from the patients	6	10	0
Total paid	1,908	16	6
Recovered	595	13	1

Apart from fees recovered from patients, the average cost to the Council per case for medical assistance in cases booked by midwives is 6s. 11.6d.

B. *Domiciliary Nursing Visits to Mothers and Babies.*

The mothers and babies who are nursed or helped by the 4 trained nurse-midwives on the staff of the Department are referred to them from the following sources:—

- (a) Midwives.
 - (b) Registered medical practitioners, under the Puerperal Fever, Puerperal Pyrexia, and Pemphigus Neonatorum Regulations.
 - (c) Health visitors.
 - (d) Maternity and child welfare clinics.
- (a) *Midwives.*—Midwives cases may be—
- (i.) Normal puerperal cases, with some septic condition, *e.g.*, a whitlow, which make it undesirable for the midwife to keep the case.
 - (ii.) Normal puerperal cases when the patient is in contact with an infectious disease, such as measles, and isolation cannot be obtained, to avoid the risk of the midwife carrying infection to other patients.
 - (iii.) Abnormal puerperal cases, in which either mother or baby has some condition diagnosed as septic, or thought likely to be so. According to her rules the midwife must either give up the case or remain in sole attendance.
 - (iv.) Cases in which there is some unsatisfactory condition of mother or baby at the end of the ten-day lying-in period which requires further nursing, *e.g.*, inflamed veins, premature baby.

- (b) *Cases from Doctors.*—An offer of skilled nursing is made to every practitioner who notifies a case under the Puerperal Fever, Pyrexia, or Pemphigus Neonatorum Regulations. The nurse then works under the direction of the patient's own doctor. For instance, if an incision into a mammary abscess has to be made, the nurse will attend at the house and assist the doctor and nurse the case afterwards.
- (c) *Health Visitors' Cases.*—The nurse visits because the health visitor reports some abnormal condition of mother or baby, such as cracked nipples, prematurity, or insufficient breast milk.
- (d) *Maternity and Child Welfare Clinics.*—The doctor at the clinic asks to have a baby treated for some condition, such as an unhealed umbilicus. A large number of cases for re-establishment of breast feeding come from the clinics.

The visits paid by the nurses under the above headings in 1932 were as follows :—

	Number of Visits
Puerperal Fever, Puerperal Pyrexia, Raised Temperature ..	688
Mammary Abscess and Mastitis	345
Phlebitis	48
Septic Skin condition of mother	58
Pneumonia and Bronchitis	30
Mother suffering from Measles	13
Puerperal cases in contact with Chickenpox	10
Puerperal cases in contact with Measles	21
Mother still unsatisfactory at end of lying-in period	57
Pemphigus Neonatorum and other skin conditions	815
Septic and unsatisfactory umbilicus	1,886
Spina Bifida	18
Prematurity of Infant	629
Promotion and re-establishment of breast-feeding	423
Unsatisfactory infants	254
Unclassified nursing visits	42
	<hr/>
	5,337

Artificial Feeding.—97 notifications of recourse to artificial feeding were received from midwives. In 17 cases it was resorted to by a doctor's orders, and in 11 because the baby was to be later separated from its mother. Of the remaining 69 cases of failure to breast-feed, more than half were said to be due to scanty secretion of milk. There were 4 cases of cleft palate.

Every case is visited in the first instance by the Health Visitor, who refers it to a special maternity nurse if it is thought that there is any chance of promoting or re-establishing breast-feeding.

Of the 41 cases taken by the nurses, 13 were successful and 3 partly successful.

Weakly and Premature Infants.—629 visits were paid by the special nurses to weakly and premature babies.

32 babies were attended, including 2 sets of twins.

The babies were visited regularly by the Health Visitor when the special nurse ceased attending, and the results when last seen by the Health Visitor were as follows :—

Doing well	.. ..	17—8	were breast-fed.
Fairly well	.. ..	5—3	„ „
Unsatisfactory	.. ..	3—3	„ „
Died	.. ..	7—1	was „

The weights of 4 of the babies who are doing well were, at birth, 2 $\frac{1}{4}$ lbs., 2 $\frac{1}{2}$ lbs., 3 lbs. 6 ozs., 3 lbs. 10 ozs.

c. *The Investigation of Cases of—*

- (i.) Maternal death.
- (ii.) Puerperal Fever and Pyrexia.
- (iii.) Still-birth and neo-natal death in midwives' practices.
- (iv.) Pemphigus Neonatorum.

Maternal Deaths.

80 maternal deaths occurred in Manchester.

Of these, 52 were investigated in accordance with the request of the Ministry of Health.

The figures differ from those compiled for the requirements of the Registrar General, as in the cases investigated, child-birth was not always given as the primary cause of death.

The remaining 28 deaths refer to women living outside the Manchester area but dying in it.

An interesting feature of the puerperal fever cases for this year is lowness of incidence with a high case fatality.

	Cases of Puerperal Fever per 1,000 notified births	Mortality per cent. of Puerperal Fever cases
1931	10·31	12·2
1932	7·32	17·7

TABLE VI.

TABLE SHOWING ALL MATERNAL DEATHS OCCURRING IN MANCHESTER IN 1932. THE LAST COLUMN GIVES THE 1931 RATE FOR COMPARISON.

Cause	Normal Full-term Labour	Abnormal Full-term Labour	Abortion	Total	Rate per 1,000 Registered Live Births	
					1932	1931
PUERPERAL FEVER—						
(a) Manchester cases.. ..	4	9	4	17	1.43	1.38
(b) Living out of district, delivered and died in Manchester	—	4	..	4		
(c) Living out of district, delivered outside, died in Manchester Hospitals		2	..	2		
		Puerperal Fever ..		23		
OTHER CAUSES—						
(a) Manchester cases ..	28		7	*35	2.96	3.42
					4.39	4.80
(b) Living out of district, delivered and died in Manchester	No information		—	22		
		Other Causes ..		57		
		Total Causes ..		80		

* Analysis of causes is given on page 193.

The maternal death rate for all cases occurring in the City, per 1,000 *notified* births, was 6.10.

The maternal death rate per 1,000 registered live births, based on the Registrar General's Return, was for 1931 3.26 and for 1932 3.64.

Of these two maternal death rates—6.10 and 3.64—the latter is the true figure for the city. The former larger figure includes deaths in bad cases admitted to hospitals, etc., from outside areas as urgently requiring such institutional care.

TABLE VII.

ATTENDANT AT CONFINEMENT WHEN MOTHER SUBSEQUENTLY DIED AND THE MORTALITY RATE PER 1,000 CASES IN DOMICILIARY PRACTICE (MANCHESTER CASES ONLY).

	MIDWIVES' CASES		DOCTORS' CASES				Abortions	Institutions
	Midwife only	Doctor present, called in by Midwife according to C.M.B. Rules	Death Rate per 1,000 cases taken	Doctor with Midwife as Maternity Nurse	Death Rate per 1,000 cases taken	Doctor only. No. skilled nursing	Death Rate per 1,000 cases taken	
Puerperal Fever..	4	4 (One ultimately delivered in Hospital)	1.59	3 (One ultimately delivered in Hospital)	3.52	..	..	2 (One on Hospital District)
Other Causes ..	12 (Six cases admitted to Hospital for delivery, of which one died undelivered)		2.38	3	3.52	3 (All ultimately delivered in Hospital)	12.5	10
	20		3.97	6	7.04	3	12.5	11
								12

For number of cases taken, see page 182 of the Report. The differences in the size of these totals make the rates calculated in them not strictly comparable, but they show a trend which is borne out by other figures, notably in Table X.

Analysis of 35 deaths due to other causes than puerperal sepsis :—

Hyperemesis gravidarum ..	2	Mesenteric thrombosis ..	1
Eclampsia.. .. .	1	Peritonitis, following cæsarian	
Toxæmia of pregnancy ..	1	section	3
Uræmia	2	Peritonitis, following	
Ante-partum hæmorrhage ..	1	attempted criminal	
Placenta prævia	3	abortion	1
Obstetric shock	1	Post-partum hæmorrhage ..	2
Ruptured ectopic gestation ..	1	Lobar pneumonia	3
Cardiac conditions	7	Exophthalmic goitre	1
Pulmonary embolism	3	Puerperal insanity	1
		Erysipelas	1

(ii.) *Puerperal Fever and Puerperal Pyrexia.*

Every case of puerperal fever and of puerperal pyrexia notified under the appropriate regulations is investigated at the patient's home address and by interviewing the attendants at the labour if thought desirable.

The lower incidence of puerperal fever in 1932, accompanied by a high death rate, has already been referred to. Sepsis of all kinds seems to have been less prevalent. The special nurses paid 1,300 fewer visits to mothers and babies suffering from pyrexia, mastitis, phlebitis, and septic skin conditions than in 1931, which, even allowing for a drop in the number of births, is a considerable difference.

Reference to Tables VII., X., and XII. seems to show that the cases selected for domiciliary delivery would in some instances have been more suitable for hospital delivery. The converse is also probably true that women now delivered in hospital would do well if confined at home.

Table VII. below sets out the number of cases notified as puerperal fever and puerperal pyrexia, and the diagnosis subsequently arrived at :—

TABLE VIII.

	Number of Notified Cases	Changes in Diagnosis				Total Number of Cases Counted
		Puerperal Fever to Puerperal Pyrexia	Puerperal Pyrexia to Puerperal Fever	To Other Causes	Delivered Outside the City	
Puerperal Fever	107	— 7	+ 14	— 13	— 5	96
Puerperal Pyrexia	83	+ 7	— 14	..	..	76

Changes in diagnosis from puerperal fever to other causes were as follows :—

Submucous fibroid (hysterectomy)	.. .. .	I
Hydatidiform mole	.. .. .	I
Ruptured ectopic gestation, followed by general peritonitis..	..	I
Acute salpingitis	.. .. .	I
Menorrhagia	.. .. .	I
Mastitis	.. .. .	2

TABLE IX.
ANALYSIS OF CASES OF PUERPERAL FEVER AND PUERPERAL PYREXIA.

	Number of Cases	Abortion or Premature Labour	Deaths from Abortion	Full-term Labour	Deaths at Full Term
Puerperal Fever	96	At 2-3 months .. 24	2	Normal labour .. 31	
		„ 4 months .. 3	2	Abnormal labour . 20	
		„ 5 „ .. 3		No particulars .. 1	
		„ 6 „ .. 1			
		„ 7 „ .. 4			
		No information .. 9			
		44	4 (2 died from sepsis, 2 from other causes)	52	16 (14 died from sepsis, 2 from other causes)

The number includes 5 full-term labours, of whom 4 died (3 from sepsis, 1 from other causes), delivered in Manchester Hospitals, but brought in from outside.

Puerperal Pyrexia	76	At 3 months .. 12		Normal labour .. 32	
		„ 4 „ .. 0		Abnormal labour.. 21	
		„ 5 „ .. 1		No particulars .. 1	
		„ 6 „ .. 3			
		„ 7 „ .. 3			
		No information .. 3			
		22	2 (died from sepsis)	54	3

The number includes 2 full-term cases and 2 abortions brought in from outside districts and delivered in Manchester Hospitals—no deaths.

The attendant at the confinement and the subsequent nursing care of the cases is given in Tables X. and XI.

	Midwife alone				Doctor present, called in according to C.M.B. Rules				Midwife acting as Maternity Nurse			Doctor, No Skilled Nursing			INSTITUTION			HOSPITAL, External District		
	Number of Attacks	Attack Rate per 1,000 Cases taken	Number of Deaths	Number of Attacks	Attack Rate per 1,000 Cases taken	Number of Attacks	Number of Deaths	Attack Rate per 1,000 Cases taken	Number of Attacks	Attack Rate per 1,000 Cases taken	Number of Deaths	Number of Attacks	Attack Rate per 1,000 Cases taken	Number of Deaths	Number of Attacks	Attack Rate per 1,000 Cases taken	Number of Deaths	Number of Attacks	Attack Rate per 1,000 Cases taken	Number of Deaths
PUERPERAL FEVER, 96 Cases																				
Labour and pre-mature labour	20	4.79	4 (1 died from other causes)	9	10.44	4		10.76	2 (1 delivered in Hosp'l)			1 (Delivered in Hosp'l)	4.1	..	11	1.85	5 (4 from outside areas, 3 of which were brought in in labour and 1 died from other causes)	5	..	1
Abortions .. ..	..	..	..	2	..	..	..	..	..	..	..	35 (25 sent direct to Monsall. 10 via other Hosp'ls)	*	3 (2 died from other causes)	3	..	1	..	..	..
The attack rate in all cases booked by midwives was 5.76 per 1,000 cases taken.																				
PUERPERAL PYREXIA, 76 Cases																				
Labour and pre-mature labour	20 (2 delivered in Hosp'l)	4.79	3 (2 died from other causes, 1 of them in 1933)	9 (4 delivered in Hosp'l)	10.44	..		8.23	1			1	4.1	..	17	2.86	..	3	..	..
Abortions .. ..	..	..	..	2	..	..	..	..	..	..	..	13 (All sent direct to Monsall)	*	3 (1 died in 1933)	4	..	..	..	..	..
The attack rate in all cases booked by midwives was 5.76 per 1,000 cases taken.																				

NOTES :—For number of cases taken, see page 182.

For the mortality rates, see Table VII.

No attack rate is calculated for cases taken on a hospital district, as cases are also taken outside the Manchester area.

*Attack rates are not worked out for abortions, as the number of cases of abortions is not known.

TABLE XI.

	Nursed in Monsall	Died	Per- centage deaths	Nursed in other hospitals	Died	Per- centage deaths	Nursed at home	Died
Puerperal Fever ..	80	11 (3 from other causes)	13·7	13	9 (1 from other causes)	69·3	3	0
Puerperal Pyrexia..	40	3	7·5	21	2 (1 from other causes)	9·5	15	0

The causes of death in the cases notified as puerperal pyrexia were :—

At Monsall Hospital Septicæmia and septic abortion .. 2

Puerperal septicæmia.. .. . 1

Other Hospitals Septicæmia with double mastitis .. 1

Erysipelas and suppurative mastitis. 1

Pages 139 to 142 give the modern methods of treatment in Monsall Hospital, also a table showing the case mortality rate since 1910.

After-Care of Cases of Puerperal Fever and Puerperal Pyrexia.

134 women who have suffered from puerperal fever or pyrexia were visited. 104 were in good health, 17 were under medical care, and 5 were urged to obtain medical advice—6 were pregnant.

(iii.) *Still-birth and Neo-natal Death in Midwives' Practice.*

The following table gives the total number of still-births notified in the City during the year :—

TABLE XII.

Number Still-births Notified	Number in Practice of				Per cent. of Notified Births	
	Midwives, including cases in which a Doctor is called in under C.M.B. Rules	Doctors, including cases with Midwife acting as maternity nurse	Hospitals		1932	1931
642	142 = 2·8% of cases taken	86 = 7·8% of cases taken	414 = 5·9% of cases taken		4·89	5·62

Analysis of possible causes of 139 still-births occurring in the practice of midwives, including cases in which medical aid was summoned by the midwife.

There is little change from last year in the assigning of the cases of still-birth in midwives' practice to various causes.

20·9 per cent. of the cases of still-birth were primiparæ, and in 25 per cent. of these cases still-birth was apparently due to breech delivery.

Breech delivery remains the most frequent cause of death to the full-term fresh foetus—9·2 per cent. of all causes of still-birth, as against 11·8 per cent. in 1931.

There is no record of ante-natal care in 11·5 per cent. of cases, and 18·7 per cent. had had one or more abortions or still-births in previous pregnancies.

	Foetus fresh			Foetus macerated		
	Full term	Pre-mature	No. of Primiparæ	Full term	Pre-mature	No. of Primiparæ
Illness of Mother—						
Influenza .. .. .	..	..	..	2	1	1
Probable specific disease .. ..	..	..	..	1	1	..
Albuminuria .. .. .	..	..	..	1	4	..
Probable toxæmia .. .. .	..	..	..	3	2	2
Poor health	4	4	..	9	7	1
Falls .. .. .	..	1	..	2	..	..
Ante-partum hæmorrhage	5	1	..	..	5	..
Hydramnios .. .. .	..	..	..	1	..	..
Accidents of labour—						
Instrumental delivery	11	..	6	..	..	..
Breech delivery	13	2	5	..	..	..
Long or difficult labour	7	..	3	..	..	..
Twin births	4	..	..	1	1	1
Abnormal cords .. .. .	..	1	..	1	..	..
Congenital malformations	6	5	3	2	2	1
Lack of attention at birth .. ..	..	1	..	..	..	..
No sufficient reason shown	5	3	1	12	8	5
No information (3)	..	..	..	..	..	..
	55	18	18	35	31	11

In cases of still-birth occurring in the practices of midwives, follow-up visits were paid at intervals of 6 months. 120 cases were visited during the period. 1 woman was pregnant, 3 had a living child, and 1 had had another still-birth.

Neo-natal Deaths in Midwives Practice.

There were 89 deaths, 14 occurred before a medical practitioner could be obtained.

	Number of Cases
No inquest considered necessary	2
Inquest verdicts—	
Convulsions	5
Accidental death due to strangulation by the cord	
Asphyxia—accidental death	
Asphyxia—lack of attention at birth (breech)—B.B.A.	
Asphyxia due to lack of attention at birth—B.B.A.	
Certificate given by doctor	4
Post-mortem without inquest—	
Congenital heart disease	3
Premature birth, respiratory failure	
Intercranial hæmorrhage	

TABLE XII.
PEMPHIGUS NEONATORUM.

Pemphigoid skin rashes reported	Notified Cases	Notified at P.M.	Not Notified	Total Deaths	Death per cent. of all reported cases
46	27 (2 died)	1	19	3	6.52

Incidence of fatal cases per registered live births :—

1929	.. ..	0.38 per 1,000
1930	.. ..	0.29 „ „
1931	.. ..	0.57 „ „
1932	.. ..	0.25 „ „

TABLE XIII.
AGE AT ONSET.

	Under 2 weeks	2-3 weeks	3-4 weeks	Over 4 weeks
Number of cases..	23	9	9	5

TABLE XIV.

PEMPHIGUS NEONATORUM IN DOMICILIARY AND HOSPITAL PRACTICE.

Midwives		Doctors		Hospitals	
Attack	Death	Attack	Death	Attack	Death
27	—	1	..	18	3

41 of the cases were nursed by the special nurses. The 3 babies who died were premature. One was a twin weighing only 3 lbs. and died at 4 days old, the other two were respectively 6 and 7 weeks old at death.

Summary of Investigations (other than nursing visits) made by the Inspectors of Midwives and Special Maternity Nurses.

	Number of Visits
Maternal deaths	59
Puerperal fever	112
Puerperal pyrexia	65
After-care in cases of puerperal fever and puerperal pyrexia..	158
Still-births	255
After-care in cases of still-birth	235
Neo-natal deaths	11
Medical records and payments of medical fees	58
	<hr/>
	953
	<hr/>

Total number of visits made by the staff:—

Inspectors of Midwives	617
Domiciliary Nursing	5,337
Investigations	953
	<hr/>
	6,907
	<hr/>

OPHTHALMIC SECTION.

The work of the ophthalmic section is carried out by 3 fully-trained nurses with special ophthalmic training, under the supervision of the Assistant Inspector of Midwives. They visit and treat, under medical supervision, all cases of eye disease from birth to school age, when those who still have eye defects are transferred to the School Medical Officer.

Cases are referred by—

1. Midwives, under the rules of the Central Midwives Board.
2. Medical Practitioners and hospitals, under the Ophthalmia Neonatorum Notification Order.
3. Medical officers at the Child Welfare Clinics.
4. Health visitors.

During the year 1932 500 cases were visited. Of these, 275 were cases of eye disease in older children, and 225 cases of ophthalmia neonatorum. The total number of visits paid was 6,989.

Ophthalmia Neonatorum.

117 cases were reported by midwives, by medical record as having advised medical aid for unsatisfactory eye conditions, and 108 were notified by medical practitioners (either private or at the Royal Eye Hospital) as cases of ophthalmia neonatorum.

Swabs were taken from the conjunctiva in all cases where possible, and sent to the Public Health Laboratory to be examined bacteriologically for the presence of gonococcus. Twelve swabs were examined, and of these 4 gave a positive result. In cases where the result of the swab was positive the mothers were advised to seek medical advice either from their own doctor or from the V.D. Clinic.

Since June, 1931, 18 mothers have been revisited after an interval of 6 months.

In 6 of these cases, where the result was positive, it was ascertained that 4 were having treatment at V.D. Clinics. Only one of these mothers gave a history of discharge, and she reported it had cleared. The other two were in good health and had no discharge.

Twelve mothers were revisited in cases where the examination of the swabs had shown the presence of pus cells. Three of these mothers, who had given a history of discharge, reported that the discharge had cleared, one only having had medical treatment.

Of the remaining 9, it was ascertained that 2 were under medical treatment for their general health. The other 9 were in good health, and all stated they had no discharge.

TABLE A—1932. OPTHALMIA NEONATORUM AND CONJUNCTIVITIS. HISTORY OF MOTHER.

	Age of Mother						Parity								Labour		Attendant not present at birth	No. of mothers having had previous cases of Ophth. Neon	History of yellow discharge	Legitimacy		
	Under 20	20—25	25—30	30—35	35 and Over	Not ascertained	Total	1	2	3	4	5	6	7	8	9+				Not Ascertained	Normal	Abnormal	Legit.	Illegit.
Notified Cases ...	9	26	31	25	17	—	108	37	26	15	12	4	5	5	—	4	—	100	8	2	96	12
Not Notified ... (Midwives' cases)	4	18	34	36	25	—	117	22	26	24	18	9	6	6	3	3	—	113	4	9	116	1
Corneal Cases ...	—	2	2	—	—	—	4	1	2	—	—	—	—	1	—	—	—	3	1	—	4	—

Total cases notified 108
Total cases not notified 117
225

TABLE B—1932. OPTHALMIA NEONATORUM.

	Interval in days between birth and onset										Attended by				Where treated			Total	
											Midwife	Doctor	Midwife and Doctor	Institution	Home	Out-Patients at Hospital	In-Patients at Hospital		
	1	2	3	4	5	6	7	8	9	10+									
Notified Cases	3	3	9	3	8	6	16	14	12	34	108	64	9	1	34	64	35	9	108
Not notified ... (Midwives' cases)	4	8	5	7	7	9	15	15	22	25	117	110	3	4	—	110	5	—	117

Total cases notified ... 108
Total cases not notified ... 117

Table C shows the day of onset, the attendant at birth, and the place of treatment.

The greatest number of onsets were on the seventh and ninth days of life, and in over one-half of the cases the first signs of disease appeared after the first five days.

174 cases were treated by private doctors and 40 received treatment at the Royal Eye Hospital.

In 4 cases there was involvement of the cornea of one eye (an increase of 1 on last year). All were admitted into the Royal Eye Hospital. 2 completely recovered, the remaining 2 have slight nebulæ, which will probably clear.

In 4 cases there was involvement of the cornea of one eye—an increase of 1 on last year. All were admitted into the Royal Eye Hospital. In 3 cases a positive swab was obtained (see detailed report), and in the fourth case no swab was obtainable.

1 completely recovered.

2 have nebula, which will probably clear.

1 removed during treatment.

Case 1.—Onset second day. Seen by doctor and notified. The ophthalmic nurse visited third day and carried out treatment under the doctor's supervision for three days, when infant was admitted to the Royal Eye Hospital. Inpatient for two months. Condition on discharge—left eye: healed ulcer, leaving nebula covering lower half of cornea, which is clearing. Right eye normal. The mother gave no history of discharge. The father was under treatment at a V.D. Clinic.

Case 2.—Onset second day. Seen by doctor and notified on the fourth day. Visited on fifth day by ophthalmic nurse, who carried out treatment under the doctor's supervision until the eyes were normal—a period of three months. The mother was under treatment from her own doctor for discharge during pregnancy. She has since had treatment at a V.D. Clinic, and when seen by the ophthalmic nurse six months later she reported she had no discharge.

Case 3.—Onset second day. Seen by doctor and notified same day. When ophthalmic nurse visited on the third day she found the cornea hazy—reported it to the doctor, who arranged for immediate admission to the Royal Eye Hospital. Discharged 6 weeks later. Cornea then clear. Ophthalmic nurse continued to visit till the eyes were normal—a period of six weeks. The mother gave a history of an untreated discharge. The ophthalmic nurse persuaded her to visit the V.D. Treatment Clinic (once), but the husband objected to her continuing to attend.

Case 4.—Onset fifth day. Doctor visited and notified. Ophthalmic nurse visited on the sixth day and carried out treatment under the doctor's supervision for a week, when she noticed the cornea hazy. She reported it to the doctor, who arranged for immediate admission to the Royal Eye Hospital. The infant was taken to live in the Salford area on discharge from hospital. The Medical Officer of Health was notified.

Result.—Two cases normal, one nebula cornea, one removed from the area.

TABLE D.—TOTAL NUMBER OF CASES OF OPHTHALMIA AND CONJUNCTIVITIS IN NEWLY-BORN INFANTS AND THE PERCENTAGE WITH CORNEAL COMPLICATIONS, 1911-1932.

Year	No. of Cases	Percentage with Corneal complications
1911	525	7.23
1912	667	11.39
1913	573	12.04
1914	681	9.25
1915	642	7.79
1916	620	6.13
1917	539	6.86
1918	567	8.64
1919	698	4.73
1920	974	4.83
*1921	921	2.28
1922	604	2.3
†1923	569	1.7
1924	572	2.0
1925	533	1.3
1926	478	2.7
1927	444	2.7
1928	375	1.0
1929	334	1.7
1930	321	1.8
1931	255	1.1
1932	225	1.8

* 1 per cent. silver nitrate supplied to midwives from July, 1921.

† 7 per cent. Argyrol supplied to midwives to replace silver nitrate from March, 1923.

Eye Diseases in Older Children.

In addition to the cases of ophthalmia neonatorum and conjunctivitis in newly-born infants, the ophthalmic nurses visit and treat, under medical supervision, all cases of eye disease in children brought to their notice, until they have recovered, or, in cases of corneal and congenital defects, keep them under observation until they have reached school age, when they are referred to the School Medical Officer with a report on their condition. Eight children were so referred during the year.

During 1932 the staff has visited 275 new cases, and 125 cases carried over from 1931. A total of 400 cases.

New Cases.			
Simple conjunctivitis ..	156	Phlyectenule	3
Purulent conjunctivitis ..	25	Keratitis	1
Blepharitis.. ..	6	Coloboma	1
Lacrymal obstruction ..	51	Congenital cataract ..	6
Hordeolum	2	Strabismus	1
Microphthalmos	1	Defective vision	2
Corneal ulcer	1	Dacryocistitis	2
Nebulæ cornea	17		

119 cases have been carried over into 1933.

All the more serious cases involving the cornea made satisfactory progress, and during the year no loss of eyesight resulted.

The case of central ulcer which was referred to the department occurred in a child 3½ years of age, who is mentally deficient and suffering from hydrocephalus. There is now a small central nebula, and the child should have good vision.

Sixteen of the 18 cases of nebulæ corneæ are still under observation.

The two cases of defective vision are both infants under 12 months old. One has a definite nystagmus right and left, and in the other a growth is suspected. Both infants are under observation at the Royal Eye Hospital.

Of the 156 cases of simple conjunctivitis, 122 were very slight, and the eyes were normal within a month.

The six cases of blepharitis were slight, and all cleared within three months.

It is interesting to note that the eye conditions associated with malnutrition are decreasing. The following table gives the figures for the last ten years:—

Year				Blepharitis	Corneal Opacity (found as Ulcer or Nebula)
1923	..	..	..	28	47
1924	..	..	..	13	35
1925	..	..	..	37	50
1926	..	..	..	40	64
1927	..	..	..	36	36
1928	..	..	..	11	22
1929	..	..	..	18	22
1930	..	..	..	9	16
1931	..	..	..	8	15
1932	..	..	..	6	18

Sunshine Home for Blind Babies.

During the year one child was maintained in the Sunshine Home for Blind Babies at Southport, suffering from coloboma of iris and choroid.

CHILD WELFARE CENTRES.

At the end of 1932 there were 20 municipal infant welfare centres and one voluntary centre in the Holy Name Schoolroom, to which the City supplies the medical officer and the stationery. This centre is otherwise staffed by the Sisters of Charity of the Order of St. Vincent de Paul.

In January an extra session was started at the Levenshulme Centre, making a total at the various centres of 89 weekly sessions for children, including 4 special toddlers' sessions. At these latter an attempt is made to secure only the attendances of children from 2-5 years.

At the end of the year there were :—

5,282 children under 1 year on the centre register.

4,006 children between 1 and 2 years on the centre register.

6,039 children between 2 and 5 years on the centre register.

59·92 per cent. of all Manchester children under 1 year attended at least once.

The tables, page 220B, show the work done at the Child Welfare Centres during the year 1932.

217,672 attendances were made at these sessions :—

109,193 by children under 1 year.

54,628 ,, between 1 and 2 years.

30,971 ,, ,, 2 and 3 ,,

16,288 ,, ,, 3 and 4 ,,

6,592 ,, ,, 4 and 5 ,,

The special problems affecting the health of young children are three :—

1. In an urban area the years 1-5 are those in which children become exposed to the great damaging infections—respiratory diseases from simple colds to pneumonia, measles, whooping cough, etc., all of which may do permanent damage.

2. Whereas a young baby can be safely left out of doors in a perambulator in all but the most inclement weather, the young toddler has to be taken out and its exercise supervised.

3. The mixed diet of a toddler requires more care than the simple feeding of infants ; at the same time the results of improper feeding are less dramatic ; the mother is less anxious, and therefore less likely to attend a Centre, especially where the Centre is overcrowded.

Toddlers' Sessions.

A weekly examination session is set apart at Newton Heath, Collyhurst, Ancoats, and Openshaw Centres. To the parents in these wards, as their children attain their second and third birthdays, a card of invitation is delivered personally by the Health Visitor, who emphasises the need for continued medical supervision, and urges them—if they are unable to obtain it otherwise—to bring their children for examination.

During 1932, 2,494 invitations were sent to 2 year olds, of whom 563 were brought for examination, and 2,602 were sent to 3 year olds, of whom 539 were brought for examination.

Massage and Remedial Exercises.

This work is performed by a staff of eight full-time masseuses, and, in addition, part-time masseuses for thirteen sessions weekly.

Massage treatment is provided at 18 centres, where 48 weekly sessions were held. At 7 centres a weekly class of remedial exercises is held for children from 2 to 5 years, for whom exercises are considered better than massage. The ailments treated are postural defects, rickety deformities, general or local poor muscular tone, and some of the milder birth injuries.

There were 26,330 attendances for massage and 2,686 for remedial exercises.

Artificial Sunlight.

Four centres are equipped with mercury vapour lamps for treatment with ultra-violet light. Eighteen sessions are held weekly.

The total number of individuals treated during 1932 was 1,148.

The number of treatments given was 22,986. 90 of those treated were mothers or expectant mothers and 1,058 were children. Of the latter, 108 were under 1 year old. 378 children ceased to attend before finishing the full course of treatment.

The best results are obtained in the treatment of rickets and the debility following acute infections. The mother of the child is often so much convinced of improvement in his condition that she will bring him regularly, at some personal inconvenience, and obviously regrets his discharge at the end of a course. Unfortunately, the indifference which may have led to the severest type of rickets in a child may lead to irregular attendance or early failure to attend.

During 1932 a larger number than usual of cases suffering from asthma were treated, with excellent results. Several cases of bronchitis, who were given short treatments over a long period, were considerably benefited.

Twenty-six mothers were treated for failing lactation and 28 expectant mothers for various disorders and discomforts of pregnancy. Results in the cases of expectant mothers are most encouraging. Ninety-four cases were notified to attend for re-examination and observation. Sixty-four of these attended and 13 were recommended for a further course of treatment.

Dental Clinics.

A general routine inspection for children has not yet been arranged. Children with suspected or beginning dental caries are referred from the welfare centres to the dental clinic, where preliminary dental treatment is given. The parents then receive regular three- or six-monthly invitations to bring them for further inspection and treatment until they reach the age of 5 years. The welfare centres are notified when these appointments are not kept and a beginning has thus been made in the care of the teeth of young children. Many parents fail to take advantage of the offer of treatment.

At the beginning of the year there were 270 children under 5 in attendance at the dental clinics. 747 new cases were referred for treatment from the welfare centres. 202 failed to attend. 545 new children attended for treatment. 235 were marked off on reaching 5 years of age and 238 because they ceased to attend. 342 names remained on the register at the end of the year. 1,525 attendances were made.

The response to the offer of dental treatment varies in different centres :—

Centre	Number referred	Number failed to attend	Attended
Abbey Hey	17	7	10
Ancoats	59	11	48
Ardwick	54	11	43
Blackley	32	1	31
Cheetham	26	7	19
Chorlton-cum-Hardy	16	2	14
Clayton	59	30	29
Chorlton-upon-Medlock	53	8	45
Collyhurst	77	32	45
Didsbury	7	1	6
Gorton	50	15	35
Harpurhey	19	7	12
Holy Name	3	1	2
Hulme	19	4	15
Levenshulme	40	7	33
Miles Platting	26	5	21
Newton Heath	63	15	48
Openshaw	61	24	37
Rusholme	37	9	28
Withington	23	3	20
Wilbraham	6	2	4
	747	202	545

A session for dental treatment of nursing and expectant mothers and one for children has been held weekly at Rosamond Street and Cheetham Centres. Patients are referred from the welfare centres.

During 1932 573 mothers made 1,314 attendances. 319 others failed to keep any appointment and received no treatment. The condition of the mouths is such that usually only extractions can be done.

Systematic talks on the influence of diet on dental structure and the prevention of caries are given at all the centres and at the dental clinics.

Cookery Classes.

It is recognised that one of the causes of the ill-health of the child under 5 years is an unsuitable diet, and it was considered advisable to provide, at infant welfare centres, classes where mothers could be taught the values of food and its preparation while young children were "minded" at the centres. For attendances, see page 220B.

The classes at Ancoats (two weekly sessions), Newton Heath, and Clayton have continued to be well filled.

The attendances at Hulme improved, and in the latter part of the year the number at Rosamond Street increased so rapidly that this is now a most successful class.

The attendances at Ardwick remain discouraging and it has been found impossible to interest the mothers of the Openshaw district in cookery; at the end of the year, therefore, this class was transferred to Gorton.

The Cookery Instructress reports:—"The general interest is steadily increasing, and mothers have greatly appreciated our efforts to put before them cheap and nutritious meals and are now putting many of these suggestions into practice."

There is, therefore, distinct encouragement in the main.

It is a matter of regret that the interest of some mothers in some of the districts has not yet been definitely secured. Those who attend are eager to learn, but it need hardly be stressed that good and attractive and economical preparation of food is a fundamental need in family life generally and is a vitally essential factor in the successful rearing of children.

Voluntary Workers.

During the year 282 voluntary workers gave valuable assistance at the child welfare centres. The total number of attendances of these workers for the year was 10,462, an average of three workers per session.

The department is greatly indebted to the voluntary workers supplied by the Schools for Mothers for the cordial co-operation they give in the work of the centres by entering the new babies, registering the attendances, and charting the heights and weights of the children.

At Ancoats, Hulme, Rosamond Street, and Clayton the Schools for Mothers held sewing classes during the winter and 1,223 attendances were made.

Ante-natal Clinics.

Ante-natal clinics are established at 14 centres, where 18 weekly sessions are held. Bi-weekly sessions are held at Openshaw and Rusholme ; at Higher Ardwick and Hulme they are combined with V.D. treatment for mothers and children. 2,243 new mothers were admitted and 10,298 attendances were made.

In addition to the ante-natal sessions provided at the infant welfare centres, there are municipal ante-natal clinics established at Crumpsall and Withington Hospitals (see Hospitals report, page 116).

Post-natal Clinics.

The after-effects of childbirth continue to give rise to concern and every attempt was made to secure the attendance of mothers for a post-natal examination at one of the 14 ante-natal centres. 449 presented themselves for complete examination at four to six weeks after confinement. The results were as follows :—

RESULTS OF POST-NATAL EXAMINATIONS.

Total number of cases examined	.. .. .	449
Total number of cases completely recovered	.. .. .	186
Number of defects found.	.. .. .	359

Analysis of Defects.

1. General state of health :—

(i.) Satisfactory	.. .. .	213
(ii.) Hypotonus and backache	.. .. .	112
(iii.) Unsatisfactory, due to—		
(a) Pregnancy or labour only	.. .. .	107
(b) Due to old standing disease	.. .. .	45

2. Local pelvic conditions—

Satisfactory	.. .. .	205
Unsatisfactory, due to :—		
(i.) Retroversion only	.. .. .	55
(ii.) Recent unhealed laceration	.. .. .	34
(iii.) Healed laceration	.. .. .	83
(iv.) Subinvolution	.. .. .	39
(v.) General hypotonus, with retroflexion or prolapse	.. .. .	47
(vi.) Any other condition	.. .. .	32

3. Evidence of renal disease—

Albuminuria before labour	.. .. .	34
Post-natal examination—		
(i.) No albumen	.. .. .	24
(ii.) Still present	.. .. .	7
(iii.) Not examined	.. .. .	13

At Rusholme an experimental post-natal exercises session, begun in July, 1931, was continued, and during the year 306 attendances were made.

The exercises and massage treatment are carried out by one of the Corporation part-time masseuses.

The purpose of this treatment is to try to restore the mother as far as possible to a satisfactory state after her pregnancy and confinement. The abdominal wall, pelvic floor, and soft tissues are stimulated and their tone restored by massage and exercises. Backache resulting from spinal and sacroiliac strain is also helped by treatment.

The mothers come about a month after the confinement and graduated exercises and massage are begun. After a few weeks the mother can do quite a reasonable course of exercises and her bodily mechanics and general health are improved.

By arrangement with the Physio-therapy Department of Ancoats Hospital the post-natal exercises class for mothers was continued at Ardwick Centre until October. It was found impossible to interest the young mothers attending this centre in this class and in October it was discontinued and transferred to Withington.

A further class was started at the Levenshulme Centre in June and has been very successful.

The Superintendent of the Physio-therapy Department of Ancoats Hospital reports :—

“Before labour the use of exercises is largely confined to the relief of circulatory troubles, intestinal stasis, and postural backache. It has, moreover, a useful disciplinary effect on the system; after labour the further effect of strengthening the musculature of the abdominal wall and pelvic floor is added. In the first pregnancy treatment is largely experimental. After repeated pregnancy it becomes obligatory. Contra indications would be severe perineal tear, lacerations, or other complications.”

During the year good work has been done, particularly in one clinic. Work in the others has been restricted by poor attendance of patients. Conditions treated have been postural backache, weak abdominal walls, constipation, weak pelvic floor, and the results obtained are definitely encouraging.

Statistics.

Withington Centre :—

1932 10 cases. 9 attendances.

Levenshulme Centre :—

1932 29 cases. 161 attendances.

Of these—20 post-natal.

7 ante-natal.

2 post-operative.

Ardwick Centre :—

1932 21 cases. 34 attendances.

Total number of cases 60

Total number of attendances .. 204

Immunisation against Diphtheria.

At all the infant welfare centres immunisation is carried out by the centre doctors and periodic campaigns are held to stimulate the interests of parents. 2,820 children were so immunised.

Ailing Children.

Twenty beds for children under 1 year and 10 for children between 1 and 2 years are retained at the Manchester Babies' Hospital (see page 228) and 8 beds in the Babies Ward at Monsall Hospital (see page 131).

350 beds for children under 5 years are provided at the Booth Hall Hospital.

For some years now the names of children under 2 years of age who have been patients in Booth Hall Hospital have been notified to the Maternity and Child Welfare Department on discharge, and the cases have been visited immediately and followed up by the health visitors. When the transfer of this hospital to the Public Health authority took place in 1930 the lists were extended to include all discharged cases under 5 years of age, and, in addition, brief clinical notes on each case have been given. During 1932 further clinical notes have been sent to this department with reference to children under 5 years who have died in the hospital. These notes are of great assistance to the health visitors and are attached to the child's case sheet as part of the record of its first 5 years. When any of these children are attending an infant welfare centre, copies of the clinical notes are sent to the medical officer of the centre and are attached to the child's centre record.

Remedial Day Nurseries.

Two such nurseries are maintained by the Schools for Mothers, one next door to the Openshaw Centre, and one, the Spence Nursery, in the grounds of the University Settlement at Ancoats. The nurseries are maintained for children between 18 months and 5 years suffering from rickets, malnutrition, and debilitated conditions. Cases for these nurseries are recommended by the centre doctors. The children are retained until they are well or reach 5 years of age.

The Corporation retains 5 beds at each* of the nurseries.

Openshaw Day Nursery.

January to December, 1932.

Total number of places for children under 5 years	13
„ „ whole day attendances	2,421
„ „ individual children who attended	26
Number of individual children admitted as Corporation cases	17
(The period of stay varied from 1 week to 12 months.)	

Spence Day Nursery.

Total number of places for children under 5 years	22
„ „ whole day attendances	4,090
„ „ individual children who attended	34
Number of individual children admitted as Corporation cases	14
(The period of stay varied from 1 week to 12 months.)	

EXPECTANT MOTHERS REPORT, 1932.

Centre	No. on Register Jan. 1st, 1932	No. of New Cases	Transferred from another Centre	Total	No. still on Register Jan. 1st, 1932	No. of "Term" Births	Still-births included in "Term" Births	No. of Premature Births	Still-births included in Premature Births	No. of Mothers left District before Confinement	Transferred to another Centre	No. of Mothers not Pregnant	Total
Ancoats	37	121	1	159	28	109	..	15	2	2	..	5	159
Ardwick	57	205	1	263	41	173	1	16	2	8	11	14	263
Chorlton-upon-Medlock ..	58	178	2	238	46	156	2	7	..	12	1	16	238
Collyhurst	37	152	1	190	34	125	3	17	1	5	..	9	190
Cheetham	37	156	* 1	194	38	112	1	9	4	13	..	22	194
Clayton	41	112	2	155	25	110	3	3	2	5	1	11	155
Gorton	49	179	9	237	51	165	3	..	..	11	..	10	237
Harpurhey	38	128	..	166	50	96	2	6	2	6	..	8	166
Hulme	27	64	..	91	20	45	2	5	3	6	..	15	91
Levenshulme	40	129	1	170	52	104	3	2	..	4	..	8	170
Newton Heath	53	185	..	238	37	178	2	5	..	6	3	9	238
Openshaw	49	258	..	307	70	201	6	16	7	4	..	16	307
Rusholme	82	234	2	318	68	183	4	8	7	35	4	20	318
Withington	22	142	1	165	51	87	3	7	3	6	1	13	165
Totals	627	2,243	21	2,891	611	1,844	35	116	33	123	21	176	2,891

EXPECTANT MOTHERS REPORT, 1932.

Centre	No. of Normal Births	No. of. Abnormal Births	Died	Attended for Post-natal Examination
Ancoats	97	27	—	19
Ardwick	158	31	—	34
Chorlton-upon-Medlock ..	138	25	—	52
Collyhurst	107	35	1	2
Cheetham	102	19	—	20
Clayton	104	9	1 (not pregnant)	22
Gorton	148	17	—	36
Harpurhey	94	8	—	42
Hulme	38	12	—	15
Levenshulme	89	17	—	46
Newton Heath	169	14	1	36
Openshaw	176	41	1	41
Rusholme	161	30	—	67
Withington	72	22	1	17
Totals	1,653	307	4 + 1	449

*Causes of Deaths of Mothers attending the Ante-natal Clinics
during the Year.*

Puerperal septicæmia	1
Placenta prævia	2
Pulmonary embolism	1

COMPARISON OF CHILDREN IN AGE GROUPS ATTENDING THE CHILD WELFARE CENTRES, DECEMBER 31ST, 1932.

Centre	On Register at beginning of year			New patients			Transferred from age group	Transferred from other Centres	Transferred to other Centres	Died	Marked off not attending			On Register, January 1st, 1933		
	0—1	1—2	2—5	0—1	1—2	2—5					0—1	1—2	2—5			
Abbey Hey	115	114	149	154	18	41	347	10	12	6	24	67	115	117	87	136
Ancoats	303	229	373	399	113	274	838	42	46	32	102	171	419	291	214	*385
Ardwick	474	389	448	608	124	182	997	23	69	32	154	280	406	442	364	443
Blackley	149	125	131	166	41	81	282	17	6	9	52	109	90	124	121	168
Cheetham	307	232	270	442	82	117	646	8	23	18	117	267	262	317	147	275
Chorlton-cum-Hardy	161	136	157	233	40	57	369	22	12	—	55	82	113	178	161	183
Clayton	155	144	212	225	47	99	373	13	13	20	61	85	166	167	128	211
Chorlton-upon-Medlock ..	433	308	358	635	134	193	1,005	20	66	30	103	298	353	460	302	405
Collyhurst	332	230	423	453	158	317	779	6	56	33	131	229	364	303	246	*489
Didsbury	109	85	89	129	25	41	222	6	13	2	27	78	76	101	73	102
Gorton	436	304	401	597	104	204	1,004	27	33	38	115	258	335	452	321	450
Harpurhey	222	213	287	309	61	113	556	5	22	19	53	136	194	236	189	306
Holy Name	46	25	33	43	11	7	93	5	10	2	10	35	34	32	20	22
Hulme	281	197	226	357	68	92	574	22	30	25	89	183	202	264	181	233
Levenshulme	235	217	268	342	49	90	604	25	45	12	52	138	197	253	204	284
Miles Platting	143	119	132	186	61	83	305	19	27	14	56	103	135	130	101	153
Newton Heath	306	246	363	483	111	310	836	17	20	27	78	179	313	365	267	*527
Openshaw	362	225	449	496	115	254	875	31	34	25	118	215	279	344	288	*465
Rusholme	364	276	321	493	101	177	751	56	53	15	139	235	251	357	280	398
Withington	275	251	251	376	75	118	670	64	11	4	84	187	223	284	252	320
Wilbraham	92	72	78	87	17	31	199	2	19	5	10	68	55	65	60	84
Totals	5,300	4,137	5,413	7,115	1,555	2,881	12,325	440	620	368	1,630	3,403	4,582	5,282	4,006	6,039

COMPARATIVE TABLES FOR PREVIOUS TWO YEARS—

* Birthday Clinics.

... .. 1931 1930 1929 1928 1927 1926

COMPARISON OF REGISTERED BIRTHS AND NEW CASES
ATTENDING THE CENTRES DURING 1932.

Ward	Registered Births	New cases under 1 year at Centre	Per- centage
All Saints	484	168	34.71
Ardwick	468	350	74.78
Beswick	452	301	66.59
Blackley	246	155	63.00
Bradford	419	275	65.63
Cheetham	362	231	63.81
Chorlton-cum-Hardy	419	295	70.40
Collegiate Church	281	155	55.16
Collyhurst	424	260	61.32
Crumpsall	232	97	41.81
Didsbury	341	106	31.08
Exchange	—	—	—
Gorton North	298	186	62.41
„ South	406	278	68.47
Harpurhey	307	199	64.82
Levenshulme	220	142	64.54
Longsight	263	137	52.09
Medlock Street	570	471	82.63
Miles Platting	457	265	57.98
Moston	323	195	60.37
Moss Side East	324	222	68.51
„ West	300	215	71.66
New Cross	578	335	57.95
Newton Heath	334	200	59.88
Openshaw	329	192	58.35
Oxford	10	—	—
Rusholme	243	144	59.25
St. Ann's	1	—	—
St. Clement's	140	86	61.42
St. George's	472	256	54.23
St. John's	96	37	38.54
St. Luke's	507	294	57.98
St. Mark's	434	209	48.15
St. Michael's	392	207	52.80
Withington	574	388	67.59
Wythenshawe	108	28	25.92
Totals	11,814	7,079	59.92

Milk was supplied to necessitous nursing and expectant mothers and to children under 5 years who were attending a centre, and for whom the doctor at the centre certified that milk was necessary on grounds of health. For children over 3 years old a certificate was required, stating the disease from which the child was suffering.

Both dried and fresh milk were used. The dried milk was bought in bulk from the manufacturers and distributed through the centres. The fresh milk was delivered by the retailers; usually one retailer for each centre. The selection was made from a list of those who had satisfactory pasteurising plant. Only pasteurised milk was ordered.

The milk was granted to applicants, after investigation, either "free" or "assisted" (half-price), according to income.

SUBSIDISATION OF MATERNITY BEDS.

Six maternity beds (2 in St. Mary's Hospital for first and abnormal cases, 2 in Denison House, and 2 in Crossley Hospital) are maintained by the City.

During the year 1932, 123 applications were received. 20 of these were cancelled and one was not accepted as the applicant was unsuitable. Of the remaining 102 applicants 57 were confined during the year.

HOME HELPS.

The arrangements for the supply of Home Helps in Manchester are made by the Manchester Home Helps Society.

The Society is subsidised by the Public Health Committee.

During the year 1932 17 Home Helps attended 141 cases for a total of 323 weeks, this being an average of 2.24 weeks per case.

The amount received in fees was £177 2s. 6d.

The Helps are remunerated at the rate of 30s. per week, plus travelling expenses and insurance. They receive no retaining fee when unemployed.

Twenty-seven free Home Helps were granted by the Public Health Committee. These cases extended over a period of 62 weeks. One free Home Help was granted by the Society itself, and this case covered a period of four weeks.

The remainder of the cases dealt with by the Society paid the costs of the Home Helps to the extent shown in the following table :—

Cases	No. of Weeks Attended	Rate per Week	Amounts Paid by Patients
		s. d.	£ s. d.
5	10	1 6	0 15 0
2	4	2 0	0 8 0
11	25	2 6	3 2 6
2	5	3 0	0 15 0
1	3	3 4	0 10 0
1	2	3 9	0 7 6
2	4	4 0	0 16 0
17	35	5 0	8 15 0
2	4	6 0	1 4 0
1	2	6 3	0 12 6
4	9	7 6	3 7 6
1	2	8 0	0 16 0
16	36	10 0	18 0 0
4	8	12 0	4 16 0
4	9	12 6	5 12 6
9	18	15 0	13 10 0
3	6	17 6	5 5 0
1	2	20 0	2 0 0
3	8	22 6	9 0 0
1	6	23 4	7 0 0
22	51	30 0	76 10 0
4	8	35 0	14 0 0
116	257		£177 2 6

Applications are made either through the Infant Welfare Centres or direct to the Secretary of the Home Helps Society. All applications are investigated by officers of the Maternity and Child Welfare Department. If not suitable for a free Home Help, in accordance with a scale applicable to grants of milk under the Child Welfare Scheme, the information is passed on to the Secretary of the Society, who assesses payment.

SUMMARY OF WORK OF *INVESTIGATORS FOR 1932.

No. of visits in connection with Milk Investigations	..	New cases	..	59	}	13
		Reinvestigations		78		
Milk Investigations at Centres	.. .. .	New cases	..	4,754	}	22,29
		Reinvestigations		17,541		
No. of visits in connection with Medical Fees	.. ..	New cases	..	1,774	}	2,36
		Reinvestigations		589		
No. of medical fee investigations at Centres	.. ..	New cases	..	2	}	18
Investigation visits <i>re</i> Home Helps	.. .. .	New cases	..	22		
Investigation at Centres <i>re</i> Home Helps	.. .. .	New cases	..	163	}	18
Investigation visits <i>re</i> Maternity Beds	.. .. .	New cases	..	46		
		Reinvestigations		28	}	18
Investigation at Centres <i>re</i> Maternity Beds	.. .. .	New cases	..	110		
Total					.. .. .	25,16

Centre Work : Milk Clerk's duties	.. ..	38 days
Office Work—Clerical duties	.. ..	88 ..
<hr/>		
Total	.. .. .	126 ..

* These officers make enquiries into the financial resources and general conditions of the families to whom help has been given under the Maternity and Child Welfare Acts and Regulations.

PROVISION OF MILK FREE OR AT REDUCED COST DURING THE YEAR 1932, COMPARED WITH THE YEAR 1931.

STATEMENT SHOWING NUMBER OF CASES RECEIVING MILK, AMOUNT SUPPLIED, COST, AND MODE OF DISTRIBUTION.

			70-72, Rosamond St. West, C-on-M.	1, Manipur St., Openshaw	153, Cheetham Hill Road	135, Pollard St., Ancoats	93, Hamilton Street, Collyhurst	230, Hyde Road, West Gorton	42, Lower Moss Lane, Hulme	45, Higher Ardwick	Jubilee School, Conran Street	St. George's School, Abbey Hey Lane	686, Oldham Rd., Newton Heath	Elm Street, Miles Platting	St. Peter's School, Levens- hulme	Welsh Church Hall, Moss Lane East	26, Clayton Street, Clayton	Blackley U.M. School, Market Street	Chorlton- cum-Hardy Baptist School	25, Heaton Road, Withington	Wilbraham Estate Community Hall	Totals
Number of New Cases put on Milk	Fresh Milk	1932..	158	284	157	274	289	243	187	130	101	42	144	133	52	188	77	19	28	102	21	2,629
		1931..	211	256	98	266	294	211	195	156	122	50	106	91	51	170	82	14	24	97	55	2,549
	Dried Milk	1932..	273	86	46	100	117	177	76	245	73	12	62	28	47	50	42	28	37	16	4	1,519
		1931..	136	90	63	102	104	239	86	238	74	25	55	57	50	49	33	32	45	32	15	1,525
Attendances of persons for Milk	Fresh Milk	1932..	4,834	6,259	3,856	6,260	7,507	4,374	3,549	4,411	1,917	1,802	2,540	2,335	1,434	6,190	3,220	330	666	3,401	925	65,810
		1931..	4,935	5,293	2,391	4,849	5,864	3,156	3,152	4,618	2,785	892	1,515	1,516	1,246	4,645	2,775	239	724	1,858	880	53,333
	Dried Milk	1932..	7,080	3,581	1,679	3,138	4,398	5,504	3,069	7,797	2,509	748	1,161	884	1,545	1,244	1,546	704	852	663	172	48,274
		1931..	3,924	3,202	1,361	2,738	3,591	5,154	2,693	6,096	2,180	1,083	941	1,112	1,276	1,391	914	439	509	643	182	39,429
Amount of Milk supplied (pints or lbs.)	Fresh Milk	1932..	34,866	44,696	28,052	43,820	52,587	28,764	25,454	31,061	13,664	12,635	17,787	16,438	10,156	43,618	22,530	2,346	4,662	23,924	6,710	463,770
		1931..	35,373	37,723	16,749	33,959	41,034	21,167	22,611	32,549	20,228	6,292	10,612	10,612	8,728	32,645	19,432	1,703	5,067	13,006	6,443	375,933
	Dried Milk	1932..	6,886	4,371	1,943	3,666	4,859	6,677	4,050	8,787	2,801	781	1,331	1,027	1,793	1,513	1,814	787	1,382	825	198	55,491
		1931..	4,542	3,870	1,546	3,096	3,935	6,155	3,249	6,914	2,560	1,204	1,030	1,209	1,578	1,626	1,048	528	565	709	227	45,591
Total Cost to Corporation	Fresh Milk	1932..	£ 315 10 1	£ 392 6 6	£ 257 18 4	£ 377 6 9	£ 473 15 1	£ 256 7 8	£ 229 1 0	£ 263 15 0	£ 126 17 2	£ 102 0 8	£ 137 18 9	£ 134 6 2	£ 76 10 11	£ 373 15 10	£ 204 0 0	£ 22 3 5	£ 41 6 2	£ 208 8 11	£ 58 18 11	£ 4,052 7 4
		1931..	£ 330 5 0	£ 350 17 1	£ 162 8 3	£ 320 3 6	£ 395 10 8	£ 205 7 11	£ 214 19 1	£ 302 4 9	£ 211 9 1	£ 54 2 5	£ 91 8 2	£ 102 19 2	£ 68 2 7	£ 323 11 2	£ 198 6 4	£ 19 7 5	£ 47 12 0	£ 127 6 3	£ 61 6 10	£ 3,587 7 8
	Dried Milk	1932..	£ 364 10 7	£ 191 4 11	£ 90 19 11	£ 151 9 5	£ 229 7 5	£ 291 2 3	£ 186 4 11	£ 373 7 6	£ 138 6 9	£ 30 17 3	£ 55 1 2	£ 46 8 4	£ 74 9 7	£ 80 13 2	£ 83 15 6	£ 38 5 10	£ 47 17 0	£ 40 11 7	£ 9 8 8	£ 2,524 1 9
		1931..	£ 247 15 10	£ 207 15 6	£ 95 13 2	£ 161 0 0	£ 221 4 11	£ 336 11 0	£ 194 14 10	£ 369 16 8	£ 162 16 11	£ 60 7 7	£ 51 2 2	£ 63 2 8	£ 82 2 11	£ 92 3 5	£ 57 15 4	£ 33 10 10	£ 30 1 5	£ 42 5 8	£ 13 2 8	£ 2,523 3 6
Total	Fresh and Dried Milk	1932..	£ 680 0 8	£ 583 11 5	£ 348 18 3	£ 528 16 2	£ 703 2 6	£ 547 9 11	£ 415 5 11	£ 637 2 6	£ 265 3 11	£ 132 17 11	£ 192 19 11	£ 180 14 6	£ 151 0 6	£ 454 9 0	£ 287 15 6	£ 60 9 3	£ 89 3 2	£ 249 0 6	£ 68 7 7	£ 6,576 9 1
		1931..	£ 578 0 10	£ 558 12 7	£ 258 1 5	£ 481 3 6	£ 616 15 7	£ 541 18 11	£ 409 13 11	£ 672 1 5	£ 374 6 0	£ 114 10 0	£ 142 10 4	£ 166 1 10	£ 150 5 6	£ 415 14 7	£ 256 1 8	£ 52 18 3	£ 77 13 5	£ 169 11 11	£ 74 9 6	£ 6,110 11 2



STATEMENT OF WORK DONE AT THE CHILD WELFARE CENTRES DURING THE YEAR 1932.

220B

	Year	Chorlton-upon-Medlock	Openshaw	Ancoats	Collyhurst	West Gorton	Cheetham	Hulme	Ardwick	Abbey Hay	Newton Heath	Harpurhey	Elm Street	Holy Name	Rusholme	Levenshulme	Clayton	Did-bury	Withington	Chorlton	Blackley	Hart Road	Totals
Consultations	1932	6,658	6,572	4,871	5,889	7,229	4,141	3,728	6,819	2,436	5,786	4,388	2,090	581	5,184	4,995	3,302	1,135	4,065	2,352	1,816	1,066	85,103
	1931	6,505	6,283	4,623	5,600	6,942	4,094	3,920	6,915	2,400	5,472	4,389	2,209	600	4,365	4,440	2,959	1,268	3,715	2,503	1,773	1,008	81,943
Babies Weighed only ..	1932	11,036	8,090	7,763	9,319	9,225	7,022	5,838	12,829	2,450	8,259	7,397	2,760	573	9,303	7,198	4,259	2,169	7,623	4,694	3,064	1,698	132,569
	1931	9,208	6,854	6,953	7,727	8,911	6,320	5,996	12,013	3,424	5,845	7,180	3,060	588	10,386	6,772	3,805	2,336	6,258	4,166	2,991	2,946	122,711
Total attendances	1932	17,694	14,662	12,634	15,208	16,454	11,163	9,566	19,648	4,886	14,045	11,785	4,850	1,154	14,487	12,193	7,561	3,304	11,688	7,046	4,880	2,764	217,672
	1931	15,713	13,137	11,576	13,327	15,853	10,414	9,916	18,928	5,824	11,317	11,569	5,269	1,188	14,751	11,172	6,764	3,604	9,973	6,669	4,764	2,946	204,654
Individuals who attended Centres	1932	1,630	1,487	1,334	1,507	1,608	1,139	954	1,703	471	1,489	989	544	117	1,456	993	721	388	1,140	651	549	297	21,167
	1931	1,550	1,502	1,241	1,361	1,513	1,063	1,017	1,800	499	1,200	940	519	153	1,409	951	767	394	993	610	520	284	20,286
Number of Attendances for Massage	1932	1,967	2,312	1,818	2,388	1,458	1,893	1,268	2,051	671	1,964	1,213	736	..	1,874	1,213	1,435	..	820	619	630	..	26,330
	1931	1,995	2,351	1,736	2,160	1,386	1,772	1,512	1,995	634	1,507	1,108	775	..	1,364	946	1,113	..	..	638	670	..	23,662
Number of Attendances for Remedial Exercises ..	1932	{ .. 379 Children	..	..	..	..	493 Children	..	D 45 Mothers	395 Children	..	..	..	..	306 Mothers 1,044 Children	182 Mothers 488 Children	10 Mothers 375 Children	..	E 5 Mothers 317 Children	..	..	..	548 Mothers 3,491 Children
	1931	{ .. 374 Children	..	..	..	..	331 Children	..	B 88 Mothers	884 Children	..	..	..	..	137 Mothers 898 Children	..	22 Mothers 448 Children	..	..	..	..	..	247 Mothers 3,203 Children
Number of Attendances for Sunlight	1932	7,140	..	..	..	..	3,850	..	7,254	..	4,742	..	..	..	..	..	..	..	..	..	..	..	22,986
	1931	6,281	..	..	..	..	3,520	..	7,854	..	4,469	..	..	..	..	..	..	..	..	..	..	..	22,124
Number of Attendances at Cookery Classes	1932	378	101	740	..	..	..	284	220	..	489	..	..	..	..	..	398	..	..	..	..	..	2,610
	1931	291	A 126	766	..	..	..	A 236	A 156	..	339	..	..	..	..	..	A 249	..	..	..	..	..	2,163
Number of Attendances at Ante-natal Clinics	1932	{ 840 A.N. 78 P.N.	1,172 A.N. 77 P.N.	526 A.N. 38 P.N.	682 A.N. 6 P.N.	794 A.N. 34 P.N.	688 A.N. 28 P.N.	364 A.N. 79 P.N.	828 A.N. 80 P.N.	..	907 A.N. 63 P.N.	644 A.N. 61 P.N.	..	..	1,073 A.N. 145 P.N.	607 A.N. 79 P.N.	585 A.N. 33 P.N.	..	588 A.N. 30 P.N.	..	..	..	10,298 A.N. 831 P.N.
	1931	{ 831 A.N. 41 P.N.	1,095 A.N. 100 P.N.	712 A.N. 14 P.N.	966 A.N. 7 P.N.	830 A.N. 25 P.N.	945 A.N. 44 P.N.	685 A.N. 56 P.N.	1,143 A.N. 116 P.N.	..	1,093 A.N. 67 P.N.	536 A.N. 40 P.N.	..	..	1,381 A.N. 215 P.N.	632 A.N. 38 P.N.	606 A.N. 27 P.N.	..	C 60 A.N. 4 P.N.	..	..	..	11,416 A.N. 601 P.N.
Number of Attendances at V.D. Clinics	1932 .. .. .	..	..	..	..	..	..	576	763	..	..	..	..	..	..	..	..	..	..	..	..	..	1,339
	1931 .. .. .	..	..	..	..	..	..	592	703	..	..	..	..	..	..	..	..	..	..	..	..	..	1,295
Number of Attendances at Dental Clinics	1932	{ 764 Mothers 865 Children	..	..	..	..	550 Mothers 650 Children	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1,314 Mothers 1,515 Children
	1931	{ 855 Mothers 781 Children	..	..	..	..	484 Mothers 348 Children	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1,339 Mothers 1,129 Children

A From May 1931**B** From June, 1931.**C** From October, 1931.**D** Closed October 28th, 1932.**E** From November 4th, 1932.

INFANT LIFE PROTECTION.

CHILDREN ACT, 1908.

Children Nursed for Hire or Reward during the Year.

Number of foster-mothers on the register at the beginning of the year	214
Number of foster-mothers on the register at the end of the year ..	202
Number of children on the register at the beginning of the year	223
„ „ placed on the register during the year	193
	416
„ „ who ceased, during the year, to come under the provisions of this Act	198
„ „ remaining on the books at the end of the year ..	218

Details as to Number of Children who ceased, during the Year, to come under the Provisions of the Children Act, 1908.

Returned to parents or relatives	103
Attained the age of 7 years	15
Adopted without payment	21
Placed in special homes, etc.	14
Admitted to hospitals	20
Removed to other districts	24
Deaths	1
	198

Licences Granted.

Licence for one child	66
„ two children	4
„ three children	1
„ three months	10
„ one month	1
	82

Licences refused	8
Revoked	4
Withdrawals	2

Adoptions.

By foster-mothers	9
By other persons	12
	21

The majority of the nurse-children are illegitimate. Of the 193 new cases entered on the books in the last twelve months 53 were legitimate.

The number of visits paid by the Infant Life Protection Visitor to nurse-children during the year was 608. Visits paid by Health Visitors, 1,130.

During the year 55 children were removed, 8 by the Committee on account of the homes being unsatisfactory, and 47 by their mothers to other foster-mothers.

There has been one death amongst the children during the year while actually in charge of the foster-mother. Twenty nurse-children were admitted to hospital, four of whom died.

Four children were deserted by their mothers; two were admitted to Withington Hospital Nursery, one to Booth Hall Hospital, and the fourth to Dr. Rhodes' Memorial Home. The mother of the child admitted to Booth Hall Hospital was found and the child returned to his late foster-mother. The mother of one of the children admitted to Withington was found and the child was discharged to her; the other child has been transferred to Nazareth House, Prestwich. The fourth child is still at Dr. Rhodes' Memorial Home.

The majority of foster-mothers in Manchester undertake the care of a child for 12s. 6d. a week, a few charge 15s., a small proportion 10s., and a very small number between 5s. and 10s. a week.

Municipal Foster-Mothers.

In 1919 the Committee accepted the endowment of the Cheetham Institute, for children deprived of the care of one or both of their parents, and in return undertook to provide foster-mothers for such children.

Since April, 1932, foster-mothers receive 15s. weekly for each child. For this they undertake to clothe, feed, and care for the child. It is also a condition that the foster-children should be taken regularly to infant welfare centres.

At the beginning of the year there were 7 such foster-mothers and 6 at the end of the year.

The grant has been chiefly spent in maintaining children of ill mothers or of widowers who could not make any suitable arrangement for the care of their child. The period of help given to each child varies, but no child is helped after the age of 5 years. Usually permanent suitable arrangements are made before the child attains the age of 5 years.

NURSING HOMES REGISTRATION ACT, 1927.

There were 35 registered nursing homes in Manchester at the beginning of 1932. 8 were registered for maternity patients; 8 for medical patients; 7 for maternity, medical, and surgical patients; 4 for medical and surgical patients; 4 for maternity and medical patients; 3 for surgical patients; and 1 for medical and surgical patients.

During the year 1932 3 applications for registration were received and were granted. In connection with these homes 9 visits were paid.

Two homes were re-registered owing to change of owners.

Two new certificates of registration were issued owing to reallocation of beds and increase in number of beds respectively.

Twenty-eight visits were paid to homes already registered, and 3 visits to premises suspected of being used as nursing homes but which did not come within the meaning of the Act.

The total new registrations for 1932 were 3 and the total number of visits paid 40.

EXEMPTION FROM REGISTRATION OF VOLUNTARY HOSPITALS.

During 1932 8 applications were received for exemption under section 6 of the Nursing Homes Registration Act, 1927.

Nine exemptions were granted.

SUMMARY OF WORK FOR THE YEAR 1932.

No. of applications for registration		Maternity	2
		Maternity and others	—
		Others	1
No. of homes registered ..		Maternity	2
		Maternity and others	—
		Others	1
No. of Orders made	Refusing	Maternity	—
		Maternity and Others	—
		Others	—
	Cancelling	Maternity	—
		Maternity and others	—
		Others	—
No. of applications for exemption from registration		Maternity	—
		Maternity and others	2
		Others	6
No. of cases in which exemption has been—	Granted	Maternity	—
		Maternity and others	1
		Others	8
	Withdrawn	Maternity	—
		Maternity and others	—
		Others	—
	Refused	Maternity	—
		Maternity and others	—
		Others	—

STATEMENT OF WORK DONE BY THE HEALTH VISITORS.

The staff at the end of the year consisted of a superintendent, an assistant superintendent, 60 health visitors, a cleansing nurse, and eight female clerks.

Table 1 shows the work done in each district worked by the health visitors.

Table 2 compares the work of 1932 with that of the four preceding years.

Notification of Births Act.

The total number of notifications received under the Notification of Births Act was 13,114, of which 7,564 were from doctors, 5,513 from midwives, and 37 from parents. 12,472 notifications referred to live births and 642 to still-births.

In the preceding year 13,480 notifications were received.

The total registered births for the city during 1932 numbered 12,375, of which 11,814 were live births and 561 still-births.

The actual number of new live births allocated to the health visitors for visiting during the year was 11,605, or 98.2 per cent. of the total live registered births.

Last year 93 per cent. of these births were considered and classified into 34 per cent. primiparæ and 66 per cent. multiparæ. This year the place in family has been considered in greater detail but irrespective of whether the child lived or died. The result of this classification of 96 per cent. of the 11,605 live births allocated to the health visitors is shown below :—

Year's Births arranged to show Place in Family.

Place in family	Number of births	Per cent.
1st	3,870	34·56
2nd	2,795	24·92
3rd	1,547	13·79
4th	1,005	8·96
5th	659	5·87
6th	450	4·01
7th	303	2·70
8th	213	1·89
9th	149	1·32
10th	91	·81
11th	73	·65
12th	36	·32
13th	13	·11
14th	7	·06
15th	2	·017
16th	2	·017
Total	11,215	100·00

Amongst families who removed into Manchester during the year the following children were visited by the health visitors :—

276	children born in		1932
251	„	„	1931
194	„	„	1930
145	„	„	1929
44	„	„	1928
<hr/>			
910			

Deaths.

The age group classification of deaths occurring amongst children under five years of age is :—

1,009 deaths of children under one year of age.

262	„	„	1 to 2 years of age.	
101	„	„	2 to 3	„ „
78	„	„	3 to 4	„ „
60	„	„	4 to 5	„ „

The subjoined table shows the distribution of deaths according to age for the children under one year :—

Died under 1 day	Died 1 to 7 days	Died 1 week to 4 weeks	Died 1 month to 3 months	Died 3 months to 6 months	Died 6 months to 9 months	Died 9 months to 12 months
145	149	122	189	173	126	105

Table 3 shows the classification of these deaths in wards and according to the principal causes of death. Tables 4 and 5 show a similar classification for the age groups 1 to 2 years and 2 to 5 years.

Table A on the following page gives mortality rates for the past ten years amongst children aged one to five years, based upon the number of live births for the year.

The curves for infant mortality and for the mortality amongst these young children show approximate similarity. This is to be expected, as the same groups of diseases to a considerable extent affect both infancy and the early years of childhood. The table, however, reveals a further fact only too little recognised by the lay public, *i.e.*, high peaks of mortality in the one to five year period are definitely associated with the epidemic incidence of measles and whooping cough, more particularly when these diseases are of a severe type. This is readily appreciated by the comparison of the mortality rate for the one to five year period with the case mortality rates of epidemics of measles and whooping cough as given in the table.

TABLE A.

YEAR	Infantile mortality rate	Mortality rate, 1—2 Group	Mortality rate, 2—5 Group	Mortality rate, 1—5 Group	Total Cases of Measles		Total Cases of Whooping Cough	
					Cases	Deaths fatality rate per cent.	Cases	Deaths fatality rate per cent.
1923 ..	88	..	..	51·3	3,482	2·98	3,804	4·83
1924 ..	100	..	..	73·8	18,349	2·01	1,706	6·79
1925 ..	96	..	..	56·7	7,941	1·62	3,333	6·18
1926 ..	87	..	..	47·2	10,953	1·42	2,094	2·91
1927 ..	86	28·4	22·6	55·01	13,987	1·17	2,244	5·52
1928 ..	91	27·7	18·1	44·2	7,141	1·72	3,189	2·79
1929 ..	97	29·6	21·8	53·6	9,512	·63	4,037	5·44
1930 ..	79	18·5	15·5	34·08	10,738	1·35	1,388	2·66
1931 ..	84	22·7	18·2	41·06	7,771	·83	3,150	2·73
1932 ..	85	22·1	20·3	42·49	12,238	·99	2 280	3·50

* Transferable deaths not included for these years.

Still-births.

The health visitors investigated 359 still-births occurring in medical practice, or in the various city hospitals. Those occurring in the practice of a midwife were dealt with by the inspector of midwives (see page 199).

Ante-natal Care.

During the year, in the course of their routine visits, the health visitors saw and advised 1,650 expectant mothers.

In addition, 708 special visits were paid at the end of a period of six months to homes where a still-birth or neo-natal death had occurred, with a view to ascertaining whether help was needed in a further pregnancy. As the result of these visits 156 expectant mothers were brought to our notice. These ante-natal cases were revisited regularly at intervals of one month, and the health visitors paid 300 visits to these mothers, many of whom also attended the corporation ante-natal clinics, held at the infant welfare centres and at Withington and Crumpsall hospitals.

Summer Diarrhœa.

From July 15th to September 30th 104 cases of summer diarrhœa were visited. Of these, 33 occurred during the last two weeks in July, 43 during the month of August, and 28 during the month of September. These figures are higher than those for the preceding year, when 69 cases were visited. Medical attention was obtained in 86 instances, and 25 children were nursed in hospital.

The details and distribution of these cases are shown in table B which immediately follows :—

TABLE B.

SUMMER DIARRHŒA. CASES VISITED BY THE HEALTH VISITORS IN 1932
(CHILDREN UNDER 5 YEARS) COMPARED WITH THOSE VISITED DURING
THE FOUR PRECEDING YEARS.

	Year				
	1928	1929	1930	1931	1932
Total number of cases visited	196	183	149	69	104
Number of cases occurring in—					
July (15th–31st)	52	48	33	15	33
August	69	61	39	36	43
September	75	74	77	18	28
<i>Cases in Wards.</i>					
All Saints	8	8	5	..	..
Ardwick	7	6	12	8	4
Beswick	15	10	7	4	2
Blackley	1	2	1	1	5
Bradford	9	11	14	5	14
Collyhurst	10	10	16	2	7
Cheetham .. .. .	..	..	..	1	1
Gorton North	2	..	7	4	3
Gorton South	10	4	8	2	10
Harpurhey	8	7	3	..	2
Levenshulme	3	3	..	1	..
Longsight .. .. .	..	1	1	..	..
Medlock Street	14	18	16	8	3
Miles Platting	6	8	7	3	3
Moston	2	5	..	..	3
Moss Side East	5	..	3	..	2
Moss Side West	7	4	2	..	..
New Cross	19	13	6	3	11
Newton Heath	2	6	3	2	6
Openshaw .. .. .	..	3	2	3	2
Rusholme	12	15	2	4	3
St. Clement's	4	4	7	2	1
St. George's	20	16	6	7	5
St. John's	10	10	1	..	3
St. Luke's	1	4	3	1	3
St. Mark's	2	4	..	2	1
St. Michael's	11	7	9	3	3
Withington, Didsbury, and Chorlton-cum-Hardy	1	2	6	3	7
Wythenshawe .. .. .	..	..	..	..	..
Number affected under 1 year of age	104	102	79	43	58
Method of feeding at onset of illness—					
Breast	19	17	22	12	13
Mixed	13	14	9	5	10
Hand	72	71	48	26	35
Deaths—					
Total number	31	32	29	18	16
Number under 1 year of age	27	25	22	18	14
Number under 4 months of age	17	12	11	11	7

RECOMMENDATIONS AND ADMISSIONS TO HOSPITAL OF CHILDREN UNDER
5 YEARS OF AGE.

The thirty beds retained by the corporation at the Manchester Babies' Hospital—twenty cots for children under 1 year and ten beds for children 1 to 3 years—and the eight beds in the babies' ward at Monsall Hospital for children 1 to 4 years have all been fully occupied throughout the year and there has always been a waiting list.

Recommendations for these beds are received from the medical officers of the infant welfare centres and arrangements are then made from this department for the admission to hospital of the children recommended. In addition to the above, commencing in April of this year, recommendations for the admission of children to Booth Hall Hospital were also received.

The following table shows the number of children recommended for each hospital and the number who were actually admitted :—

Hospital	Number recommended	Number admitted
Manchester Babies' Hospital { Cots	130	116
{ Rickets beds	66	56
Babies' Ward, Monsall Hospital	25	21
Booth Hall Hospital	77	74
Totals	298	267

An analysis of the reasons which prevented the admission of the 31 other children recommended, but not admitted, is given below :—

	Children
Admitted to private cots	7
„ „ other hospitals	8
Died before a bed was available	2
Improved whilst on waiting list	5
Parents permission withheld	9
	—
Total	<u>31</u>

Amongst the older children admitted either to the rickets beds in the Babies' Hospital, to the babies' ward, Monsall Hospital, or to Booth Hall Hospital, the conditions from which they were stated to be suffering are grouped under the following headings :—

	Children
Rickets	52
Tonsillectomy	40
Debility	10
Gastro-enteritis	8
Respiratory trouble	7
Atrophy	7
Hypotrophy	4
Dyspepsia	3
History of tuberculosis	3
Vomiting	2
Impetigo	2
Mongolism	2
Convulsions	2
Dentition	1
Hernia	1
Infantile paralysis	1
Congenital heart	1
Chorea	1
Circumcision	1
Abscess of brain	1
Vulvo-vaginitis	1
Persistent traces of albuminuria	1
Total	<u>151</u>

The ages of the children admitted for tonsillectomy were :—

Ages	Children
2 to 3	8
3 to 4	20
4 to 5	12
Total	<u>40</u>

MEASLES, GERMAN MEASLES, WHOOPING COUGH, AND PNEUMONIA.

Cases of measles and whooping cough have been visited during the year in the same manner as was described in the previous report. It is unnecessary again to give in detail the principles under which this work is carried out. The importance of this practical control can be seen by observation of the figures given below, and is further emphasised by the well-established fact that these two diseases are not only the infections of childhood which cause more deaths and more incapacitation than any other, but indeed more than all the other infections of childhood. There is no doubt but that this work ranks very high in the services rendered by the health visitors.

Measles.

Cases notified by doctors	8,924
Cases found by health visitors or notified by others than doctors	3,314
Total number of known cases	12,238
Total number of cases investigated	12,238

The sub-joined table shows the incidence of pneumonia in these cases and their distribution according to home cases or hospital cases :—

	Nursed at home		Removed to hospitals		* Developed Measles whilst in hospitals		Totals
	11,781		409		48		
	No Pneumonia	Com- plicated by Pneumonia	No Pneumonia	Com- plicated by Pneumonia	No Pneumonia	Com- plicated by Pneumonia	
Number of cases ..	11,541	240	270	139	29	19	12,238
Cases covered ..	11,533	186	263	92	27	1	12,102
Deaths	8	54	7	47	2	18	136
Case fatality.	·069%	22·5%	2·59%	33·81%	6·89%	94·73%	1·11%

* Patients in hospital for other conditions developing measles.

In addition 94 cases were found after complete recovery had been made and are classified as “ late ” cases.

The cases removed to hospital as a rule are cases of a more serious type. This accounts for the somewhat higher mortality rates in that group.

The total visits paid to measles cases was 33,361.

German Measles.

Total number of german measles cases notified..	..	..	1,687		
„	„	„	visited ..	..	1,687
„	„	„	recovered	..	1,685
„	„	„	died	..	2

The number of visits paid by the health visitors in respect of german measles was 3,691

Whooping Cough.

Whooping cough, a disease which is not compulsorily notifiable by the medical profession, has been included since 1911 in a local act as one of three infectious diseases in which parents and guardians of school children must notify the head teacher of any child known or suspected to be suffering from this disease.

The information is passed on to the Medical Officer of Health by the Education Department.

Total number of cases notified	2,280
Total number of cases visited	2,280

The sub-joined table shows the incidence of pneumonia in these cases and their distribution according to home cases or hospital cases :—

	Nursed at home		Removed to hospitals		* Developed Whooping Cough whilst in hospitals		Total
	2,068		185		27		
	No Pneumonia	Com-plicated by Pneumonia	No Pneumonia	Com-plicated by Pneumonia	No Pneumonia	Com-plicated by Pneumonia	
Number of cases ..	1,969	99	92	93	15	12	2,280
Recovered ..	1,955	..	80	48	13	5	2,167
Died	14	33	12	45	2	7	113
Case fatality.	·71%	33·3%	13·04%	48·38%	13·33%	58·33%	..

* Patients in hospital for other conditions developing whooping cough.

In addition 369 cases of whooping cough were found after complete recovery had been made, and have been classified as “ late ” cases.

The total visits paid to whooping cough cases was 5,999.

Pneumonia.

The health visitors investigated and gave nursing attention also to a large number of cases of pneumonia and influenza during the year. The facts relating to these services are given in the reports of these diseases on pages 51 to 54.

Assistance.

The grant (originally made in 1917) to supply milk to young children suffering from measles, whooping cough, pneumonia, etc., in families where the actual income is below the standard scale, was continued during the year. Applications for milk were granted in 588 cases, and 9,142 pints of milk were given.

The general statistics relating to measles, german measles, and whooping cough are found on pages 45 to 49.

Infantile paralysis.

There were four notifications of acute anterior polio-myelitis in 1932 occurring in children under five years of age, but, in the course of their visiting, the health visitors found fifteen other children suffering from its after-effects where the history suggested an onset during 1932. The diagnosis was confirmed from information supplied by the hospital or clinic where the resulting paralysis was under treatment.

Date of Onset	No. of Cases	Age	Observations
Late 1931	1	1 $\frac{8}{12}$	Died 1931. Notified 1932, after death.
February	1	2 $\frac{2}{12}$	Notified 3-3-32.
April	1	1 $\frac{5}{12}$	Found by the health visitors.
May	2	(a) 2 (b) 2 $\frac{1}{2}$	Found by the health visitors. Found by the health visitors.
June	2	(a) 1 (b) 1 $\frac{1}{2}$	Found by the health visitors. Found by the health visitors.
July	2	(a) 2 $\frac{1}{12}$ (b) 2 $\frac{3}{12}$	Notified 10-8-32. Found by the health visitors.
August	5	(a) 1 $\frac{2}{12}$ (b) 2 $\frac{8}{12}$ (c) 1 $\frac{3}{12}$ (d) 2 $\frac{5}{12}$ (e) 2 $\frac{4}{12}$	Notified 20-8-32. Found by the health visitors. Found by the health visitors. Found by the health visitors. Found by the health visitors.
September	2	(a) 3 $\frac{3}{12}$ (b) 4 $\frac{8}{12}$	Found by the health visitors. Found by the health visitors.
October	2	(a) 4 $\frac{3}{12}$ (b) $\frac{6}{12}$	Found by the health visitors. Found by the health visitors.
December	1	2 $\frac{11}{12}$	Found by the health visitors.

Vermin.

With one or two exceptions, all the notifications in respect of vermin were sent in from the Education Department.

The notifications received numbered 376, as compared with 379 in the previous year. This continued decrease is again probably due to the fact that the school nurses are dealing directly with the slightly verminous cases, and only referring to us the persistently verminous ones and those which would suggest that the home conditions required supervision.

The cleansing station at Oldham Road was in use for the compulsory cleansing of 7 school children and of 5 voluntary cases on 5 days throughout the year. Formerly all school children requiring compulsory cleansing were referred to this department, and they were cleansed by the special nurse appointed for verminous work. These cleansings are now mostly carried out by the school nurses at various centres in the City.

In addition to her work at the cleansing station, the special nurse carried out in the home the cleansing of 28 persons, all suffering from a serious verminous condition of the head. This assistance was rendered where there was no responsible person in the home to undertake the duty. The nurse also paid 638 other visits to verminous cases.

Scabies.

Here again our original source of information is principally the Education Department, who sent to us 821 notifications in respect of scabies amongst school children, as compared with 715 in the preceding year, but many additional cases were brought to our notice as contacts of those notified.

It is still necessary to make provision for the treatment of some adult cases at the cleansing station, which was in use for this purpose on 157 days. The average number of treatments per person is three and altogether 616 treatments were given. To show the increase in the work it is interesting to compare the figures with those for 1931, 1930, and 1929, when 373, 298, and 46 treatments were given respectively.

N.S.P.C.C.

This society continued to render valuable help to the department in many directions. Only 10 cases were formally referred to the society for action—cases in which immediate medical treatment was needed and had not been obtained. The help given by the society is gratefully acknowledged.

Visiting the Jewish Poor.

The Ladies' Society for Visiting the Jewish Poor employ a nurse, who is also qualified as a health visitor. Her time is partly given to charitable work amongst the Jews and partly to maternity and child welfare work under the direction of the local health authority. The latter portion of her work is done under the general superintendence of this department, and, whilst mainly devoted to the supervision and care of mothers and infants, includes some housing work. The details of her activities are given in the sub-joined tabular statement :—

DISTRICT	HOUSE-TO-HOUSE INSPECTIONS		RE-INSPECTIONS			Primary infants	Subsequent visits	Children from 1 to 5 years	Expectant mothers		Neo-natal revisits	Total number of visits
	Number of visits	No. of defects referred to Sanitary Dept.	Number of revisits	Defects remedied	New complaints referred				P.	S.		
Red Bank and Strangeways	434	49	191	68	57	194	1845	1956	108	11	6	4745

TABLE 1.—HEALTH VISITORS' YEARLY SUMMARY—TOTALS FOR THE FIFTY-TWO WEEKS ENDING, DECEMBER 31st. 1932.

DISTRICT	No. of Births	INFANT WORK							ANTE-NATAL CARE						OVERCROWDING AND SANITARY DEFECTS					SCABIES		VERMINOUS WORK		MEASLES WORK				WHOOPING COUGH		PNEUMONIA		INFLUENZA		MISCELLANEOUS VISITS						No. of Sessions at Centre	TOTAL VISITS	REMARKS																									
		Primary Visits	Subsequent Visits	Children 1 to 2 years	Children 2 to 3 years	Children 3 to 4 years	Children 4 to 5 years	Investigations re Deaths of Children under 5 years from Diarrhoea	Still-Births		"Neo-Natal" Deaths		Expectant Mothers		Over-crowd-ings	Over-crowd-ings Abated	Defects Found	Defects Remedied	Special Visits to either	Primary Visits	Subsequent Visits	Primary Visits	Subsequent Visits	Measles		German Measles	Measles	Primary Visits	Subsequent Visits	Primary Visits	Subsequent Visits	Primary Visits	Subsequent Visits	Visits re Infantile Diarrhoea	Visits re Relief	Visits "Out"	Wrong Addresses		Special Visits																												
									Primary Visits	Subsequent Visits		Ex	N.P.	Primary Visits										Subsequent Visits	Primary Visits												Subsequent Visits	Primary Visits					Subsequent Visits	Primary Visits	Subsequent Visits	Primary Visits	Subsequent Visits	Primary Visits	Subsequent Visits	Primary Visits	Subsequent Visits	Primary Visits	Subsequent Visits	Primary Visits	Subsequent Visits	Primary Visits	Subsequent Visits	Primary Visits	Subsequent Visits	Primary Visits	Subsequent Visits	Primary Visits	Subsequent Visits	Primary Visits	Subsequent Visits	Primary Visits	Subsequent Visits
										Ex.	N.P.																																																								
All Saints—South	296	268	1,081	642	662	457	320	5	11	2	3	..	2	83	2	(11)	(3)	..	23	30	6	3	300	457	6	1	51	62	30	39	4	3	..	14	..	11	2	..	(54)	4,580	Primary visits paid in Wilbraham.																								
Ardwick—North	181	193	1,289	741	662	613	413	3	5	..	2	1	4	45	8	10	28	4	3	111	328	7	0	24	42	31	63	4	1	12	3	1	(58)	4,660																											
" —South	174	187	1,150	731	641	530	481	2	4	5	5	2	6	37	13	(3)	4	9	5	4	137	222	1	4	33	18	14	22	5	2	4	(97)	4,308																										
" —East	154	158	827	531	479	413	557	2	9	..	4	..	6	15	31	15	23	107	236	1	4	19	19	28	37	..	1	..	11	2	(125)	3,597	H.V. superannuated 14-10-32 then worked by student H.V.																										
Barlow Moor	190	217	793	532	515	444	370	..	6	42	4	7	91	152	4	6	32	74	17	29	4	5	1	(94)	3,361																											
Blackley	242	250	661	489	529	409	645	2	14	1	10	..	5	4	4	7	138	200	58	77	23	52	20	17	2	1	(1)	2	1	(57)		3,739																									
Bradford—East	139	150	598	427	405	311	399	2	3	3	9	2	11	47	31	(13)	(6)	..	5	8	2	4	90	224	19	13	20	40	12	29	16	4	10	2	(89)	2,902																									
" —West	172	178	928	552	499	308	305	1	5	..	3	1	7	33	12	(7)	(2)	(26)	(13)	27	..	1	4	17	54	255	8	12	10	19	15	29	6	8	(1)	7	(118)	3,214																									
Peswick—North	149	153	874	589	548	570	630	..	4	..	4	5	2	14	1	(1)	..	(24)	(6)	4	29	37	5	18	40	227	2	1	27	57	22	55	5	4	5	(103)	3,938																										
" —South	144	88	668	402	413	396	279	..	4	1	4	..	2	2	(1)	..	(3)	11	9	5	14	8	17	2	13	3	(50)	2,341																										
Cheetham	336	350	1,108	626	499	189	134	..	8	2	10	..	8	40	2	1	1	1	1	397	499	36	28	43	91	25	29	4	6	(58)	4,146																										
Collyhurst—North	198	206	1,207	758	552	517	595	..	10	5	3	..	8	34	3	(2)	(2)	(28)	1	5	4	31	72	230	91	136	53	96	34	70	18	18	5	1	(84)	4,763																									
" —South	222	222	1,043	735	631	572	524	2	8	1	6	1	7	50	7	4	8	10	26	90	255	33	67	61	88	26	41	2	(71)	4,520																											
Chorlton-cum-Hardy	232	385	708	375	277	168	180	..	5	4	6	..	4	13	2	2	2	331	351	18	21	62	110	37	32	6	1	(2)	5	1	(78)	3,115																									
Crumpsall	306	348	1,117	972	799	598	411	1	8	2	2	..	1	(6)	331	351	18	21	62	110	37	32	6	1	(2)	5	1	(88)	4,919																									
Gorton—N.E.	124	148	548	671	643	521	441	..	2	..	2	(2)	1	..	5	9	144	312	36	50	8	48	11	32	..	3	(74)	3,175																										
" —N.W.	170	178	1,235	906	727	663	476	1	2	..	3	46	13	(9)	(20)	2	7	17	7	41	206	370	1	6	61	116	19	73	11	14	6	3	(85)	5,204																									
" —S.E.	220	249	947	727	704	558	707	1	8	..	5	1	1	1	(1)	(18)	(20)	..	4	7	6	16	112	376	4	6	11	48	12	67	1	5	(56)	4,584																									
" —S.W.	179	191	1,058	1,188	713	527	244	1	4	6	1	58	26	(4)	7	19	18	24	217	379	1	1	36	67	23	38	5	5	(1)	(73)	4,857																									
Harpurhey—North	144	155	732	592	466	455	506	..	6	..	2	..	7	26	15	(1)	..	(12)	1	13	106	391	41	67	23	65	21	41	2	1	1	(155)	3,735																										
" —South	158	146	861	669	522	421	358	..	5	..	1	1	5	92	4	(1)	(1)	(6)	..	5	12	3	21	80	249	46	73	27	78	19	34	6	5	..	13	(74)	3,756																									
Levenshulme	202	258	824	349	378	338	522	..	7	1	9	..	3	26	17	(1)	(10)	(13)	20	5	14	4	22	228	409	5	13	15	39	15	38	8	8	4	2	(111)	3,581																										
Longsight	280	292	975	679	595	468	655	1	8	..	4	2	2	1	1	7	6	2	3	270	449	10	14	24	79	23	30	..	1	(89)	4,601																									
Medlock Street—East	294	307	1,111	740	728	493	754	1	14	2	3	5	9	89	..	(1)	..	(24)	(27)	..	13	4	3	4	191	302	6	9	13																																						



TABLE 2.

SHOWING THE WORK DONE BY THE HEALTH VISITORS IN 1932 AND COMPARING IT WITH THE WORK DONE DURING THE FOUR PRECEDING YEARS.

Classification of visits	1928	1929	1930	1931	1932
Primary visits to infants	11,879	12,194	13,780	12,665	12,202
Subsequent visits to infants under 1 year	60,001	59,612	63,364	58,971	56,416
Subsequent visits to children 1-5 years	148,993	137,981	148,524	135,193	136,342
Home visits <i>re</i> infants and young children	300	438	113	111	80
Still-birth investigations	554	606	803	380	359
Home ante-natal visits	142	2,383	2,554	2,671	2,658
Measles—Primary visits	6,975	9,034	11,252	7,682	12,386
„ Subsequent visits	16,324	13,101	21,380	9,239	20,975
German measles—Primary visits ..	1,341	493	259	2,550	1,634
„ Subsequent visits	1,859	676	377	3,561	2,057
Whooping Cough—Primary visits ..	3,134	3,969	1,422	3,038	2,156
„ Subsequent visits	5,767	8,449	2,712	5,704	3,843
Pneumonia—Primary visits	3,017	4,040	2,770	2,873	2,896
„ Subsequent visits	4,913	5,958	4,086	4,500	4,114
Influenza—Primary visits	261	1,737	236	895	367
„ Subsequent visits	273	1,366	197	594	231
Scarlet fever cases—Primary visits ..	331	330	412	242	267
„ Subsequent visits	1,425	1,045	1,218	836	697
Measles cases—Primary visits	269	228	378	405	406
„ Subsequent visits	606	423	837	732	720
Home visits <i>re</i> sanitary defects	694	481	266	113	113
Home visits <i>re</i> relief	76	87	49	29	55
Special investigations	757	22	15	54	31
Successful visits	2,339	1,748	2,419	2,312	2,395
Total visits	272,240	266,401	279,423	255,350	263,400
Number of health visitors	55	57	58 (1 part-time at centres)	59 (1 part-time at centres)	60
Number of health visitors dealing only with measles, whooping cough, and pneumonia cases	4	4	4	4	4
Number of districts worked	51	53	54 (2 temporary Measles visitors—1 worked 6 weeks and 1 worked 16 weeks)	55	56 (1 temporary H.V. worked ten months—Sick Relief duty)
Attendance at child welfare centres..	1,969	2,667	3,190	3,694	4,806

DEATHS UNDER ONE YEAR—1932. TABLE 3.

WARD	CAUSES OF DEATH—CHILDREN UNDER 12 MONTHS.											Number of deaths of children under 1 year of age	Number of health visitors working in the district
	Bronchitis and Pneumonia	Prematurity	Debility and Marasmus	Dystocia	Enteritis	Convulsions	Tuberculosis	Syphilis	Accidental Deaths, including Want of Attention at Birth	Influenza	Measles	Whooping Cough	Other Causes
All Saints ..	12	17	3	1	8	..	..	2	2	..	2	1	3
Ardwick ..	7	13	2	..	3	2	..	..	1	2	1	1	12
Beswick ..	8	14	2	..	8	..	..	..	..	..	1	..	8
Blackley ..	9	7	..	..	3	2	..	..	2	1	..	2	2
Bradford ..	10	7	5	1	5	2	1	..	..	..	1	2	8
Cheetham ..	7	10	1	1	2	1	..	..	..	..	..	..	10
Chorlton-cum-Hardy	3	10	1	..	2	3	..	1	1	..	..	..	5
*Collegiate ..	10	3	..	1	5	1	..	2	..	..	4	1	1
Collyhurst ..	16	7	..	3	4	..	..	..	..	1	..	1	12
Crumpsall ..	5	4	..	1	3	4	..	..	..	..	1	..	5
Didsbury ..	6	6	..	1	..	..	..	..	2	..	..	..	9
Gorton North ..	5	2	2	..	2	..	..	..	..	..	1	1	6
Gorton South ..	5	3	..	..	2	..	..	..	..	..	2	..	5
Harpurhey..	5	7	..	1	..	..	1	..	1	..	..	2	9
Levenshulme ..	5	3	..	..	..	..	..	..	2	..	..	..	2
Longsight ..	1	3	..	2	2	1	..	..	..	1	1	..	4
Medlock Street	15	8	1	1	3	6	1	1	2	..	..	..	16
Miles Platting ..	16	10	1	..	4	3	..	..	1	..	..	3	11
Moston ..	11	10	..	..	1	2	..	1	..	..	3	..	4
Moss Side East	4	6	2	1	3	1	..	1	1	..	..	..	9
Moss Side West	3	6	1	..	..	1	..	1	..	1	..	..	8
New Cross ..	17	8	2	1	5	2	2	1	1	..	3	4	13
Newton Heath	1	3	1	..	4	1	3	1	1	1	..	3	5
Openshaw ..	5	15	..	1	4	1	..	1	1	..	1	..	4
Rusholme ..	..	3	..	..	1	1	..	..	..	..	..	1	6
St. Clement's	4	1	1	..	..	1	..	..	..	..	1	1	4
St. George's	12	8	..	1	4	3	..	..	1	..	..	1	10
St. John's	2	2	..	..	2	1	..	..	1	..	..	1	2
St. Luke's	18	8	3	..	4	..	1	4	1	..	1	1	9
St. Mark's	7	8	..	..	4	1	1	..	2	..	1	1	10
St. Michael's	8	9	..	..	4	1	1	..	..	..	1	1	7
Withington	5	10	2	1	3	3	..	..	..	1	..	3	12

CAUSES OF DEATH—CHILDREN ONE TO TWO YEARS.

CAUSES OF DEATH—CHILDREN ONE TO TWO YEARS.													
WARD	Number of health visitors working in the district	Number of deaths among children 1 to 2 years of age	CAUSES OF DEATH—CHILDREN ONE TO TWO YEARS.										
			Bronchitis and Pneumonia	Debility and Marasmus	Enteritis	Convulsions	Tuberculosis	Syphilis	Accidental Deaths	Influenza	Measles	Whooping Cough	Other Causes
All Saints ..	1	16	10	..	1	..	..	..	..	5	..	..	..
Ardwick ..	3	10	4	..	1	..	..	1	..	..	..	..	..
Beswick ..	3	16	7	..	2	..	..	1	..	1	..	4	..
Blackley ..	1	2	1	..	1	..	..	..	..	..	..	..	..
Bradford ..	3	11	3	..	1	..	..	..	..	3	..	2	..
Cheetham ..	1	5	2	..	..	..	..	..	..	1	..	1	..
Chorlton-cum-Hardy ..	2	6	3	..	..	..	..	1	..	..	..	1	..
*Collegiate ..	2	9	6	..	1	..	..	..	..	..	..	..	..
Collyhurst ..	2	16	5	..	..	..	..	..	1	1	..	2	6
Crumpsall ..	1	5	3	..	..	..	..	..	..	..	..	..	2
Didsbury ..	1	6	2	..	2	..	..	..	..	..	..	..	1
Gorton North ..	2	9	2	..	..	..	..	..	..	..	..	..	3
Gorton South ..	2	8	3	..	1	..	..	..	..	3	..	..	..
Harpurhey ..	2	8	4	..	..	..	..	..	..	3	..	..	1
Levenshulme ..	1	5	2	..	..	..	..	..	..	2	..	..	1
Longsight ..	1	3	1	..	..	..	..	1	..	1	..	..	1
Medlock Street ..	3	13	4	..	..	1	..	2	..	..	..	1	..
Miles Platting ..	3	15	4	..	..	..	..	1	..	..	..	5	2
Moston ..	1	2	2	..	..	..	..	..	..	..	..	..	..
Moss Side East ..	1	6	2	..	..	..	..	1	..	..	..	..	1
Moss Side West ..	1	3	2	..	..	..	..	..	..	..	..	..	..
New Cross ..	3	19	5	..	2	1	..	..	..	5	1	3	..
Newton Heath ..	2	5	1	..	1	..	..	..	..	2	..	..	..
Openshaw ..	1	5	1	..	..	1	..	..	..	1	..	1	..
Rusholme ..	1	2	..	..	..	..	..	..	..	1	..	..	..
St. Clement's ..	1	2	1	..	..	..	..	..	..	..	..	..	..
St. George's ..	2	17	5	..	..	..	..	2	..	5	..	2	3
St. John's ..	1	2	..	..	..	..	..	1	..	1	..	1	..
St. Luke's ..	2	11	5	..	..	..	..	1	..	1	..	1	2
St. Mark's ..	2	13	4	..	..	..	..	1	..	4	..	1	2
St. Michael's ..	2	9	1	..	..	..	..	1	1	1	..	1	2
Withington ..	2	3	..	..	..	..	..	..	..	..	..	..	..
Wythenshawe ..	1	..	..	..	..	..	..	..	..	..	..	..	..
Total ..	57	262	95	..	9	2	22	1	6	2	56	28	41

* A portion of Collegiate is worked by the Health Visitor appointed to visit the Jewish Poor.

DEATHS—TWO TO FIVE YEARS—1932. TABLE 5.

WARD	Number of health visitors working in the district	Number of deaths among children 2 to 5 years of age	CAUSES OF DEATH—CHILDREN TWO TO FIVE YEARS.										
			Bronchitis and Pneumonia	Debility and Marasmus	Enteritis	Convulsions	Tuberculosis	Syphilis	Accidental Deaths	Influenza	Measles	Whooping Cough	Other Causes
All Saints ..	1	15	1	..	..	1	2	2	..	2	2	2	5
Ardwick ..	3	16	6	..	2	..	..	..	..	..	..	..	4
Beswick ..	3	16	4	..	1	..	..	1	..	2	3	..	6
Blackley ..	1	2	1	..	..	..	..	1	..	..	..	..	..
Bradford ..	3	12	8	..	..	..	..	1	..	..	1	..	2
Cheetham ..	1	3	..	..	..	..	..	..	..	1	..	..	..
Chorlton-cum-Hardy	2	8	3	..	..	..	1	..	1	..	..	..	2
*Collegiate ..	2	6	4	..	..	..	..	..	..	..	..	1	2
Collyhurst ..	2	7	2	..	..	..	..	1	..	2	..	..	3
Crumpsall ..	1	7	..	..	..	..	..	2	..	..	1	..	2
Didsbury ..	1	4	..	..	..	..	..	1	..	..	..	..	..
Gorton North ..	2	8	1	..	..	..	..	2	..	..	2	1	2
Gorton South ..	2	7	2	..	..	..	..	1	..	..	1	..	1
Harpurhey ..	2	2	1	..	..	..	..	..	..	..	1	..	..
Levenshulme ..	1	..	..	..	..	..	..	..	..	..	..	..	..
Longsight ..	1	6	..	..	..	..	..	1	..	1	..	..	4
Medlock Street	3	10	3	..	..	..	..	1	..	1	..	4	1
Miles Platting	3	15	5	..	..	1	..	3	..	..	1	1	4
Moston ..	1	4	1	..	..	..	..	1	..	..	..	..	3
Moss Side East ..	1	5	3	..	..	..	..	1	..	..	1	1	..
Moss Side West ..	1	4	..	..	..	..	..	2	..	1	..	..	..
New Cross ..	3	14	2	..	..	1	1	..	..	..	1	4	3
Newton Heath ..	2	9	3	..	..	..	..	1	..	..	..	2	1
Openshaw ..	1	3	..	..	..	..	..	..	..	1	..	1	..
Rusholme ..	1	3	3	..	..	..	..	..	..	..	..	..	..
St. Clement's ..	1	3	..	..	..	..	..	..	..	1	1	1	..
St. George's ..	2	12	3	..	..	..	..	2	..	1	2	..	4
St. John's ..	1	1	..	..	..	..	..	..	..	..	..	..	..
St. Luke's ..	2	14	2	..	..	1	..	4	..	..	4	..	2
St. Marks' ..	2	6	1	..	..	..	..	2	..	..	2	..	1
St. Michael's ..	2	8	3	..	..	..	..	1	..	1	..	..	2
Withington ..	2	9	3	..	..	..	..	1	1	..	..	1	2
Wythenshawe ..	..	..	..	..	..	..	..	1	1	1	..	..	4

TREATMENT OF VENEREAL DISEASES.

There are five main centres in the City for the free examination and treatment of persons suffering from venereal diseases. They are situated respectively at the Manchester Royal Infirmary, Ancoats Hospital, St. Luke's Hospital, Manchester and Salford Hospital for Skin Diseases, and St. Mary's Hospital. At these centres, 15 male and 20 female clinics are held each week.

In addition to the main centres a prematernity clinic, with morning and afternoon sessions, is held weekly at two of the maternity and child welfare centres—Higher Ardwick and Lower Moss Lane,—where mothers and babies suffering from, or suspected to be suffering from, venereal diseases are examined and receive any necessary treatment.

Intermediate treatment for male and female patients is given every day at St. Luke's Hospital and for females on one day a week at St. Mary's. An auxiliary centre for females in the grounds of Monsall Hospital is open daily, including Sundays, for the intermediate treatment of women. Similar daily facilities for men have been provided at the Manchester Royal Infirmary since the beginning of 1932.

In-patient accommodation is available as follows:—

	NUMBER OF BEDS	
	<i>Male</i>	<i>Female</i>
St. Luke's Hospital	8	22
Ancoats Hospital	1	1
Skin Hospital	1	1
Crumpsall Hospital	24	48 (Cots 9)

Laboratory facilities are available for diagnosis for medical practitioners and provision is made for the free supply of approved arsenobenzene compounds to those medical practitioners treating cases in the City who are recognised as having the necessary experience in their use.

During the last two years there has been a slight fall in the numbers of persons suffering from venereal diseases who have presented themselves for the first time at the Manchester clinics. This tendency to reduction is experienced generally throughout the country and it seems probable that it is due, in some part, to a genuine decrease in the number of persons suffering from these diseases.

During the year 1932 there were 1,119 new cases of syphilis and 1,404 new cases of gonorrhœa. Altogether, there was a total of 2,645 cases of syphilis treated throughout the year and 2,847 cases of gonorrhœa.

It must, of course, be recognised that many cases of venereal disease never come under proper treatment at all. This is particularly true of gonorrhœa, but it is encouraging to note the large number of people who continue to present themselves at the clinics who are found not to be suffering from venereal disease. (Table I.)

The regular attendance of patients depends largely on the facilities provided for thorough treatment and on the comfort in which the treatment can be received. It is satisfactory to record that the number of attendances by individuals at the Manchester clinics has consistently been increasing during the last six years.

The total number of attendances at all the clinics in 1927 was 75,581; in 1930 it was 101,157, and in 1932—128,768.

The increase in attendances applies both to syphilis and gonorrhœa, but is more strikingly evident in the case of the latter complaint. (Tables II. and III.) This improvement is to a great extent consequent on the new arrangements made for intermediate treatment at St. Luke's Hospital and to the reorganisation of the work at the Manchester Royal Infirmary.

Tables II. and III. show the extent to which attendances by patients have been increasing during recent years and the figures are indicative of the growing efficiency and popularity of the clinics.

The average number of attendances per person which is given in the tables conveys no real information as to the number of attendances by any particular individual, but it is useful for comparative purposes, and from a study of the figures it is evident that patients are realising more and more not only the value of continuity of treatment but the importance of completing the course of treatment required to attain cure of the disease.

It will be seen from Table IV. that the several clinics do not share equally in the general improvement. Attendances by gonorrhœal patients will always be low wherever facilities for treatment are inadequate and it is obvious from the figures given in the Table that proper facilities are not available at the Ancoats Centre and have, until recently, been inadequate at the Manchester Royal Infirmary.

The reorganisation of the work at the Royal Infirmary and the arrangements for treatment by daily irrigation, which came into operation early in 1932, are responsible for the remarkable increase in attendances at that centre. It will be noted from Table IV. that the average number of attendances per person at the Royal Infirmary for syphilis in 1932 was 18·3 compared with 9·5 in 1931, and for gonorrhœa the average number of attendances in 1932 was 32·0 compared with 4·4 in 1931.

The attendances of syphilis patients at Ancoats Hospital are comparatively good. On the other hand, the attendances of gonorrhœal patients at this centre are entirely unsatisfactory and will continue to be so until better facilities are provided for intermediate treatment. Additional accommodation for this purpose will be completed during 1933 and it may confidently be anticipated that immediate good results will follow.

It is plainly evident that the reorganisation of the work at the Manchester Royal Infirmary and the improved arrangements which, during the last few years, have been introduced into the clinic at St. Luke's Hospital have resulted in greater efficiency in the treatment of venereal diseases in the City, and the provision at Ancoats Hospital of facilities for the intermediate treatment of gonorrhœa will, without doubt, add greatly to the value of the Manchester venereal diseases scheme.

The total number of pathological samples examined during the year 1932 was as follows :—

Wassermann Reaction	.. .. .	7,333
Gonococci	.. .. .	7,368
Spirochaetes	.. .. .	191

The full details are shown in Table E.

TABLE I.
NEW CASES AT THE MANCHESTER VENEREAL DISEASES CLINICS,
1927-1932.

Year	Total number found to be suffering from venereal diseases	Total number found not to have venereal diseases	Total number of new cases
1927	3,176	1,243	4,419
1928	3,167	1,424	4,519
1929	3,255	1,254	4,509
1930	3,061	1,339	4,400
1931	2,485	1,449	3,934
1932	2,585	1,442	4,027

TABLE II.
NUMBER OF PERSONS TREATED FOR SYPHILIS AT THE MANCHESTER CLINICS,
NUMBER OF ATTENDANCES AND AVERAGE ATTENDANCES PER PERSON,
1927-1932.

Year	Number of Patients	Number of Attendances	Average Attendances per Person
1927	3,540	31,504	8.9
1928	3,724	35,000	9.4
1929	3,634	33,829	9.3
1930	3,484	37,493	10.8
1931	3,021	38,105	12.6
1932	2,645	46,601	17.6

TABLE III.
NUMBER OF PERSONS TREATED FOR GONORRHOEA AT THE MANCHESTER CLINICS,
NUMBER OF ATTENDANCES AND AVERAGE ATTENDANCES PER PERSON,
1927-1932.

Year	Number of Patients	Number of Attendances	Average Attendances per Person
1927	3,745	37,189	9.9
1928	3,894	43,112	11.1
1929	3,822	48,045	12.6
1930	3,626	56,578	15.6
1931	3,465	58,979	17.0
1932	2,847	76,544	26.7

TABLE IV.
AVERAGE NUMBER OF ATTENDANCES PER PERSON, SYPHILIS AND GONORRHOEA,
AT EACH OF THE FIVE MAIN CENTRES, 1927-1932.

Year	M.R.I.		Ancoats		Skin		St. Luke's		St. Mary's	
	Syph.	Gon.	Syph.	Gon.	Syph.	Gon.	Syph.	Gon.	Syph.	Gon.
1927	4.6	2.8	10.6	5.7	11.7	—	19.0	19.6	8.5	12.3
1928	4.7	3.1	14.4	6.0	12.0	—	17.5	23.4	10.1	14.8
1929	5.6	3.8	12.1	6.8	12.5	—	15.3	27.7	10.0	8.8
1390	6.3	4.2	14.5	6.8	13.7	—	18.3	33.2	10.9	11.4
1931	9.5	4.4	17.6	6.4	15.5	—	15.3	35.8	10.8	8.0
1932	18.3	32.0	23.8	7.5	15.7	—	17.7	33.6	10.5	8.3

FINANCE

A statement prepared by the City Treasurer shows that the total net expenditure on the scheme for the year 1932 was as follows:—

A.—Apportionable Expenditure.

	£	s.	d.
Manchester University, Department of Pathology ..	361	0	10
Ancoats Hospital	2,572	13	0
Manchester and Salford Hospital for Skin Diseases ..	1,498	1	3
St. Luke's Hospital	4,621	4	10
Manchester Royal Infirmary	4,097	1	0
St. Mary's Hospital	1,116	11	8
Approved Arsenobenzene Compounds issued by the Medical Officer of Health	373	16	4
Auxiliary Centre for Females	507	12	6
	<u>£15,148</u>	<u>1</u>	<u>5</u>

B.—Non-apportionable Expenditure.

	£	s.	d.
Treatment of Manchester patients by other Local Authorities	3,091	4	8
Maternity and Child Welfare Centres	322	6	5
Publicity	8	8	0
Printing, Stationery, and Advertising	40	19	5
Administration Expenses	387	13	8
	<u>£3,850</u>	<u>12</u>	<u>2</u>
Total expenditure for the year	<u>£18,998</u>	<u>13</u>	<u>7</u>

The total cost per attendance is 3s. 5·54d., a decrease of approximately 4½d. on last year's figure of 3s. 10·18d. Comparing the five hospitals, the highest cost per attendance is at Ancoats (3s. 11·51d.) and the lowest at the Manchester Royal Infirmary (3s. 0·45d.), a difference of 11·06d.

No action under the Venereal Disease Act, 1917, has been taken during the year. This Act relates mainly to the treatment of persons suffering from venereal disease by unqualified practitioners.

TABLE A.

GENERAL SUMMARY OF THE WORK DONE AT ALL THE CENTRES DURING THE YEAR

	Syphilis		Soft Chancre		Gonorrhœa		Conditions other than venereal		Total	
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
1. Number of cases on 1st January, 1932, under treatment or observation	735	641	7	...	1009	309	58	120	1809	107
2. Number of cases removed from the register during any previous year which returned during the year under report for treatment or observation of the same infection	27	38	...	...	39	20	7	12	73	7
3. Number of cases dealt with for the first time during the year under report (exclusive of cases under Item 4) suffering from	681	438	61	1	1072	332	784	658	2598	142
4. Number of cases dealt with for the first time during the year under report known to have received treatment at other Centres for the same infection	42	43	...	...	49	17	...	...	91	6
Totals of Items 1, 2, 3, & 4	1485	1160	68	1	2169	678	849	790	4571	262
5. Number of cases discharged after completion of treatment and final tests of cure	205	97	57	...	447	98	789	661	1498	85
6. Number of cases which ceased to attend before completion of treatment and were, on first attendance, suffering from	262	257	...	...	402	211	...	...	664	46
7. Number of cases which ceased to attend after completion of treatment but before final tests of cure	117	115	...	...	269	26	...	...	386	14
8. Number of cases transferred to other centres or to institutions, or to care of private practitioners	96	73	2	1	166	39	...	...	264	11
9. Number of cases remaining under treatment or observation on 31st December, 1932	805	618	9	...	885	304	60	129	1759	105
Totals of Items 5, 6, 7, 8, and 9 (These Totals should agree with those of Items 1, 2, 3, and 4)	1485	1160	68	1	2169	678	849	790	4571	262
10. Number of cases in the following stages of syphilis included in Item 6 which failed to complete one course of treatment	93	80	...	...	...	...	...	...	93	80
11. Number of attendances:— (a) for individual attention of the medical officers	28840	16628	200	2	19452	7754	1426	1793	49918	26177
(b) for intermediate treatment, e.g., irrigation, dressing	1133	...	2076	...	40780	8558	...	126	43989	8684
Total Attendances	29973	16628	2276	2	60232	16312	1426	1919	93907	34861
12. In-patients:— (a) Total number of persons admitted for treatment during the year	26	18	...	...	24	32	...	...	50	50
(b) Aggregate number of "in-patient days" of treatment given	634	513	...	...	596	1213	...	...	1230	1726
	Under 1 year		1 and under 5 years		5 and under 15 years		15 years and over		Total	
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
13. Number of cases of congenital syphilis in Item 3 above classified according to age periods	12	8	4	5	9	8	8	8	33	29

TABLE B.—SHOWING THE WORK DONE AT FIVE VENEREAL DISEASE CLINICS AND AT TWO CHILD WELFARE CENTRES DURING THE YEAR 1932.

244A

PARTICULARS	MANCHESTER ROYAL INFIRMARY				ANCOATS HOSPITAL				HOSPITAL FOR SKIN DISEASES				ST. LUKE'S HOSPITAL				ST. MARY'S HOSPITAL				CHILD WELFARE CENTRE, HIGHER ARDWICK				CHILD WELFARE CENTRE, LOWER MOSS LANE				TOTALS FOR THE YEAR				GRAND TOTALS—ALL AREAS (Compared with corresponding figures for 1931)							
	Sy.	S.C.	G.	Not V.D.	Sy.	S.C.	G.	Not V.D.	Sy.	S.C.	*G.	Not V.D.	Sy.	S.C.	G.	Not V.D.	Sy.	S.C.	G.	Not V.D.	Sy.	S.C.	G.	Not V.D.	Sy.	S.C.	G.	Not V.D.	Sy.	S.C.	G.	Not V.D.	1932	1931						
New Cases	409	3	412	298	220	..	237	442	206	..	40	142	203	59	567	230	55	..	141	199	21	..	1	93	5	..	6	38	1119	62	1404	1442	4027	3921						
Total cases treated	993	4	758	323	381	..	444	477	486	..	40	142	485	65	1292	256	224	..	297	295	42	..	6	101	34	..	10	45	2645	69	2847	1639	7200	8076						
Cases discharged after completion of treatment	136	1	235	299	106	..	148	447	28	..	..	142	18	56	110	222	9	..	48	209	5	..	3	95	..	..	1	36	302	57	545	1450	2354	2280		
Cases ceasing to attend Clinic— (A) Before completion of treatment	109	..	95	..	68	..	88	..	134	..	..	..	141	..	316	..	54	..	111	..	3	..	..	..	10	..	3	..	519	..	613	..	1132	1631
(B) After completion of treatment, but before final tests as to cure	57	..	68	..	110	..	60	..	5	..	..	..	60	..	167	..	..	..	..	..	..	..	..	..	..	..	..	..	232	..	295	..	527	800
(C) Transferred to other Treatment Clinics	92	3	128	..	..	..	..	..	43	..	40	..	21	..	28	..	3	..	8	..	7	..	..	..	3	..	1	..	169	3	205	..	377	486
Attendances at the Out-patient Clinic	18169	19	7946	639	9101	..	3315	579	7607	..	40	237	7430	183	13810	448	2361	..	1955	936	483	..	26	261	317	..	114	119	45468	202	27206	3219	76095	65404						
Intermediate treatment .. .. .	..	..	16335	..	..	..	..	..	..	..	..	..	1133	2076	29552	..	..	..	515	126	..	..	..	..	..	..	..	..	1133	2076	46402	126	49737	35410
In-patient Days	81	..	..	..	..	..	..	..	319	..	..	..	747	..	1809	..	..	..	..	..	..	..	..	..	..	..	..	..	1147	..	1809	..	2956	2035
Doses of approved arsenobenzene compounds given	6726	..	..	..	2608	..	..	..	1957	..	..	..	2428	..	..	..	1044	..	..	..	297	..	..	..	200	..	..	..	..	..	..	..	15260	11632
Pathological Examinations made— A. (Centre)	Wass. 94	Spir. 1721	Gon. ..	Other Organisms ..	Wass. 1320	Spir. ..	Gon. 774	Other Organisms 4	Wass. ..	Spir. ..	Gon. ..	Other Organisms ..	Wass. 84	Spir. 3711	Gon. ..	Other Organisms ..	Wass. ..	Spir. ..	Gon. 539	Other Organisms ..	Wass. ..	Spir. ..	Gon. ..	Other Organisms ..	Wass. ..	Spir. ..	Gon. ..	Other Organisms ..	Wass. 1320	Spir. 178	Gon. 6745	Other Organisms 4	Wass. 1320	Spir. 178	Gon. 6745	Other Organisms 4				
B. (Public Health Laboratory)	1690	965	4	1009	..	1	1	242	129	..	53	..	35	..	58	..	4070	4	112	1	4070	4	112	1				
																																			5390	182	6857	4993	110	5398

* Gonorrhœa Cases transferred to Other Centres.

TABLE C.—WORK DONE AT THE VENEREAL DEPARTMENT,
CRUMPSALL HOSPITAL, 1932.
TOTAL ADMISSIONS.

	Syphilis	Soft Chancre	Gonorrhœa	Conditions other than Venereal
Males	60	..	59	47
Females	87	..	33	33
	147	..	92	80

Admission of Patients from other Areas (included in above figures.)

	Syphilis	Soft Chancre	Gonorrhœa
Males
Females	I
	I

There were 29 births in this department of the hospital during the year 1932. There were no stillbirths, no abortions, and no cases of ophthalmia neonatorum.

Twenty-four babies were born without any signs of specific disease and with negative Wassermanns, and five were syphilitic at birth. Two babies died within ten days of birth, both from prematurity.

The average length of time under treatment was 36 days.

Persons Treated with Approved Arsenobenzene Compounds.

	Manchester	Other Areas
Males	43	2
Females	78	..
Total	121	2

Number of injections of approved arsenobenzene compounds .. 605

Pathological Examinations.

WASSERMANN REACTION					GONOCOCCI					SPIROCHÆTES				
Positive	Negative	Doubtful	Unsatis- factory Specimens	Total Examined	Positive	Negative	Doubtful	Unsatis- factory Specimens	Total Examined	Positive	Negative	Doubtful	Unsatis- factory Specimens	Total Examined
112	152	10	3	277	76	417	I	..	494	..	..	..	..	..

AUXILIARY CENTRE FOR FEMALES AT MONSALL HOSPITAL.

TABLE D.—SHOWING NUMBER OF PERSONS TREATED AT THE CENTRE DURING 1932

PARTICULARS	Gonorrhœa	Syphilis and Gonorrhœa	Not V.D.	Total
1. Number of females who on 1st January, 1932, were under treatment for	41	..	..	41
2. Number of new patients who attended during the year for the first time— (a) Name of Clinic from which patient came— Ancoats Hospital	37	..	..	37
Manchester Royal Infirmary	16	..	..	16
(b) Cases referred to the Centre by Medical Practitioners	8	..	..	8
3. Old patients who have returned for treatment after discontinuing attendance for some time— (a) From Clinics— Ancoats Hospital	22	..	..	22
Manchester Royal Infirmary.. ..	3	..	..	3
(b) Cases referred by Medical Practitioners	3	..	..	3
Total item 2 (new patients)	61	..	..	61
Total items 1, 2, and 3—Total patients attending during 1932	130	..	..	130
4. Cases discharged cured :— (a) Ancoats Hospital	44	..	..	44
Manchester Royal Infirmary	17	..	..	17
(b) Medical Practitioners' Cases	9	..	..	9
Total item 4.—Cases discharged cured	70	..	..	70
5. Discontinued attendance	36	..	..	36
6. Transferred to other Clinics .. .. .	..	..	..	..
7. Number of patients still attending on Jan. 1st, 1933	24	..	..	24

The number of new patients was 61, which compares with 78 in the previous year and 66 in 1930. More than half the cases came from Ancoats Hospital.

The total number of attendances was 2,936, an average of 22·58 per person, there being 28 patients who attended on more than 30 occasions.

509 Sitz baths were given during the year.

PATHOLOGICAL WORK DONE DURING 1932.

	Wassermann Reaction					Gonococci					Spirochaetes				
	Positive	Negative	Doubtful	Unsatisfactory Specimens	Total Examined	Positive	Negative	Doubtful	Unsatisfactory Specimens	Total Examined	Positive	Negative	Doubtful	Unsatisfactory Specimens	Total Examined
A. Work done at the Public Health Laboratory (University Bacteriological Department) :															
Medical Practitioners	298	874	50	5	1,222	82	325	..	..	407	4	5	..	..	9
Institutions other than Approved Centres	110	581	39	5	730	11	45	..	..	56	..	..	..	..	..
St. Luke's Hospital	196	767	44	1	1,007	..	..	..	..	..	..	..	..	..	..
Manchester and Salford Hospital for Skin Diseases	388	505	49	9	942	..	..	..	..	..	2	2	..	..	4
St. Mary's Hospital	58	179	7	1	244	..	..	..	..	..	..	..	..	..	..
Manchester Royal Infirmary	648	956	102	1	1,706	..	..	..	..	..	..	..	..	..	..
Two Maternity and Child Welfare Centres	33	121	8	2	162	6	154	..	..	160	..	..	..	..	..
Total work done at Public Health Laboratory	1,731	3,983	299	24	6,013	99	524	..	..	623	6	7	..	..	13
B. Work done by Hospital Pathologist :—															
Ancoats Hospital	421	765	134	..	1,320	70	692	12	..	774	..	..	..	..	..
C. Work done by Clinical Pathologist at Clinics :—															
Manchester Royal Infirmary	..	..	..	..	..	335	1,386	..	..	1,721	47	47	..	..	94
St. Mary's Hospital	..	..	..	..	..	52	252	235	..	539	..	..	..	..	..
St. Luke's Hospital	..	..	..	..	..	363	3,173	160	15	3,711	34	50	..	..	84
Total of A, B, and C	2,152	4,748	433	24	7,333	919	6,027	407	15	7,368	87	104	..	..	191

PUBLIC HEALTH EDUCATION.

Organisation and Lectures Delivered.

All the guilds, organisations, etc., in Manchester are circulated each year, bringing to their notice the lectures which are offered free of charge by the Public Health Committee.

The number of lectures given to guilds, associations, etc., was 101, as against 110 for the previous year. The cost of giving these lectures was £140 12s. The fee paid for each lecture is £1 1s. plus expenses, except lectures on venereal diseases, the fee for which is £2 2s. which includes expenses.

Below is a statement showing how the 101 lectures were distributed :—

Co-op. Guilds—

Women	28
Men	6
Mixed	5

Church Organisations—

Women's meetings	17
Mixed	7
Women Citizens' Association	25
Political Clubs	3
Boy Scouts	4
Midwives' Institute.. .. .	3
Other Organisations	3
Total	<u>101</u>

Titles of Lectures and Number of Times Given.

LECTURE	Number of times given	Number of Attendances
1. Common Ailments of the Child	1	50
2. Some Mistakes Mothers make	2	46
3. What to tell our Children about Sex	2	85
4. Miscellaneous Lectures to Boy Scouts desirous of obtaining Public Health Badge	3	63
5. The Expectant Mother	1	10
6. The Change of Life	12	685
7. Our Bodies and How we Live	3	109
8. Infectious Diseases	2	115
9. Food and Drink—Their Use and Abuse ..	3	230
10. Venereal Diseases	5	184
11. Cancer	1	24
12. Microbes—Friends and Foes	1	20
13. Foods—Values and Prices	3	134
14. Housing and Health	2	80
15. Sunlight and Health	6	270
16. The Romance of Medical Science	6	204
17. Recent Advances in Medical Research	6	277
18. The Story of Preventive Medicine	2	125
19. The Problem of Sex-education	1	35
20. The Health Administration of a Modern City	2	75
21. Rats—The damage they do and how to destroy them	1	22
22. Laughter and Health	6	240
23. Seeing What Isn't There	4	131
24. The Fear of Disease	2	62
25. Habit Making and Breaking	3	88
26. Interest in Life—Keeping and Losing it ..	8	310
27. Antidotes to Anxiety	5	230
28. The Curiosity of Children	1	70
29. The Innocence of the Naughty Boy	1	30
30. Health and Hygiene	3	99
31. Health—How to keep it	2	130
32. Maternal Mortality	1	30
Total	101	4,263
Average		42.2

Letters of appreciation regarding the manner in which these lectures have been delivered have from time to time been received from the various organisations. Verbal appreciation is often expressed when secretaries of organisations approach the department for further lectures.

Nine lectures have also been given by the Medical Officer of Health and his assistants and other members of the staff to midwives and health visitors.

"Better Health."

On 10th February, 1931, the Public Health Committee agreed to a three years' scheme for the monthly distribution of 10,000 copies of the journal *"Better Health."* Each number has, as its principal matter, a standard series of articles on health subjects used for this magazine throughout the country generally. In addition there are two pages of local matter (one of which is an article written by a specialist on the subject in this department, on the school medical staff, or on the staff of other departments of the Corporation). Local advertisements are also a feature of the publication, the nature of which is in each case approved by the Medical Officer of Health.

Since its inception in October, 1931, to the end of the year 1932, the following articles have been contributed by the officers of this and other departments of the Corporation :—

1. "Public Education in Health."—Dr. R. Veitch Clark.
2. "Pasteurisation of Milk."—Mr. R. C. Locke, Veterinary Surgeon.
3. "Protection against Diphtheria."—Dr. John S. Taylor.
4. "Pure Food."—Dr. W. St. C. McClure.
5. "The First Signs of Common Infections."—Dr. D. Sage Sutherland.
6. "Tuberculosis in Children."—Dr. D. P. Sutherland.
7. "Cleanliness and Ventilation of the Home."—Mr. F. Pollard, Chief Sanitary Inspector.
8. "Defective Vision in Children."—Dr. H. Herd.
9. "The Health of the Toddler."—Dr. Nora F. Smith.
10. "Precautions against Diarrhoea in Infants."—Dr. R. Veitch Clark.
11. "Flowers in the Parks."—Mr. W. W. Pettigrew.
12. "The Health Visitor."—Miss M. G. Seed, Superintendent of Health Visitors.
13. "Public Cleansing."—Mr. B. B. Jones, Director of Public Cleansing.
14. "Physical Education in the Schools."—Mr. Ernest Major, Inspector of Physical Education, Manchester Education Department.
15. "Whooping Cough."—Dr. D. Sage Sutherland.

Distribution is effected through the Public Free Libraries, the Maternity and Child Welfare Clinics, the Tuberculosis Clinic, Baguley Sanatorium, and by 20 large firms throughout the City. The issue of this journal has proved a very efficient and inexpensive method of bringing health matters to the notice of the general public, and letters of appreciation to this effect from certain firms reach the office at intervals.

The only cost to the City is that of distribution, amounting to approximately 23/- per month.

Exhibition.

We are again indebted to the "Daily Dispatch" for the reservation of a large area for the department in the "Health and Hygiene" Exhibition. Four stalls were erected on this area by the Public Health Department, of which the principal one was set aside for showing the production of clean milk and its benefits to the general public. Another stall illustrated a lying-in room showing all the requirements for the mother and newly-born baby. A third stall was allotted to the British Social Hygiene Council's exhibits, whilst the other was occupied by Baguley crafts. At this latter stall, work produced by the patients of both sexes in Baguley Sanatorium as part of their routine treatment was exhibited. The articles had a ready sale.

In taking part in exhibitions a large public is reached, and the success of the undertaking is enhanced by the teaching of the sanitary inspectors and health Visitors who are in constant attendance at the respective exhibits.

Maternity and Child Welfare Film.

The Maternity and Child Welfare film is always available for any cinema where the management wish it to be shown.

Work done by Health Visitors, Sanitary Inspectors, and Superintendents of Maternity and Child Welfare Centres.

The health visitor in her work and through the close association she has with the people has unequalled opportunity of carrying out health education of a high order. This is equally true of the work done by the sanitary inspector in his house-visiting for any purpose. The weekly talks given in the Maternity and Child Welfare Clinics by the Superintendent-in-charge are of particular value, in as much as the mother is reached at the time when her interest in child care is at its keenest.

Cost of the Propaganda Work.

The amount allowed for public health education in the estimates (April, 1932, to March, 1933) is £475. This amount includes lecturers' fees, erection and maintenance of stalls at the "Health and Hygiene" Exhibition, distribution of the "Better Health" journal, and a contribution of £112 to the British Social Hygiene Council, which permits the department to call upon their films and exhibits when required.

DISINFECTING STATION.

The following table gives details of the articles disinfected :—

ARTICLES DISINFECTED AT DEPOT DURING THE YEAR 1932.

Month ending	Blankets	Sheets	Pillows	Bolsters	Quilts	Mattresses	Beds	Carpets	Clothing	Sundries	Totals
January ..	602	312	630	202	396	180	387	16	434	261	3,420
February ..	590	267	571	170	420	159	278	15	487	130	3,084
March	713	285	668	159	455	268	263	17	475	219	3,522
April	1,494	244	558	161	403	187	244	11	542	437	4,281
May	850	236	469	156	364	165	131	8	371	197	2,947
June	2,233	314	611	153	158	165	304	4	426	170	4,538
July	573	310	577	171	369	172	281	10	438	141	3,042
August	773	229	459	150	234	136	249	3	851	97	3,181
September ..	602	280	573	185	386	156	305	11	365	141	3,004
October ..	652	308	699	180	453	176	328	7	483	143	3,429
November ..	1,665	318	708	204	474	185	334	13	484	367	4,752
December ..	599	254	711	160	386	154	293	9	485	197	3,248
Totals ..	11,346	3,357	7,234	2,051	4,498	2,103	3,397	124	5,841	2,500	42,451

Steam disinfector 40,223 Articles.

Formic Aldehyde Chamber 1,243 { 639 Mattresses.
604 Clothing.

.. .. . 985 Books.

42,451

Total.

REPORT OF THE SANITARY SECTION, 1932.

SUPERVISION OF FOOD.

Prevention of Food Adulteration.

During the year 3,316 samples of food and drugs, including 1,420 milk samples, were taken by the three sampling officers and submitted to the City Analyst for chemical analysis. Of these 2,776 were statutory and 540 informal samples. Analysis revealed adulteration in 105 statutory and 27 informal samples. Prosecutions were instituted in 23 cases. Eighteen of the defendants were fined and one ordered to pay the costs. Two of the summonses were dismissed and two were withdrawn. Five of the offenders were cautioned. In the remaining 77 cases the adulteration was so slight that it was deemed to be insufficient for action. In every instance where an informal sample showed adulteration a statutory sample was obtained immediately.

The following table shows the extent of adulteration in Manchester as compared with the average in the country, and also indicates that, whilst there had been a steady decrease in the adulteration in the City for the four years ending 1931, there has been an increase during the year under review:—

Year	Percentage of samples adulterated			
	Milk		All food and drugs	
	Manchester	Average for England	Manchester	Average for England
1928	13·61	8·2	5·90	5·8
1929	8·81	7·8	3·97	5·4
1930	6·73	6·6	3·15	4·8
1931	4·77	6·4	2·71	4·6
1932	8·38	—	3·98	—

The increase in the percentage of samples adulterated is entirely due to the milk samples, as will be seen from the following figures :—

Year	Total samples of food and drugs other than milk	Number adulterated	Per cent.
1931	1861	22	1·18
1932	1896	13	·68

Year	Total milk samples	Number seriously adulterated	Per cent.	Number slightly adulterated or informal samples	Per cent.
1931	1,382	14	1·01	52	3·76
1932	1,420	21	1·48	98	6·90

The sampling officers also procured 820 samples from railway stations and vehicles entering the City by road, and submitted them for bacteriological examination.

Public Health (Preservatives, etc., in Food) Regulations, 1925.

The provisions of these regulations have been enforced.

All samples governed by the regulations have been examined by the City Analyst for the presence of preservatives.

The number of samples examined by the City Analyst under the provisions of the regulations was 2,232.

One sample of potted meat was found to contain ·3 per cent. of boric acid.

Three samples of milk contained 10 parts, and one sample 12 parts, per million of formic aldehyde.

Two samples of sausages (without labels declaring the preservative) were found to contain 120 parts and 89 parts per million of sulphur dioxide respectively.

Prosecutions were taken in each case and the proceedings resulted in the imposition of fines and costs amounting to a total of £9 19s.

TABLE NO. 1.

OWING THE PROCEEDINGS TAKEN UNDER THE PROVISIONS OF THE ADULTERATION
OF FOOD AND DRUGS AND THE MARGARINE ACTS DURING 1932.

ARTICLE	Number of Samples obtained	Number Adulterated	Number not Adulterated	Number ordered to be Summoned	Number Cautioned	No action taken. Slightly Adulterated or Informal Sample	PROSECUTIONS						Amount of Costs ordered to be paid		
							Number Sum- moned before Magistrates	Number Fined	Number ordered to pay Costs only	Dismissed or Withdrawn	Amount of Fines Imposed				
											£ s. d.	£ s. d.			
ground	16	..	16	..	..	..	..	..	..	..	..	..
	2	..	2	..	..	..	..	..	..	..	..	..
d Ham	37	..	37	..	..	..	..	..	..	..	..	..
powder	18	..	18	..	..	..	..	..	..	..	..	..
	34	..	34	..	..	..	..	..	..	..	..	..
	29	..	29	..	..	..	..	..	..	..	..	..
	85	..	85	..	..	..	..	..	..	..	..	..
n Bread)	6	4	2	2	..	2	2	2	..	..	0 10 0	1 6 0	
te of Soda	19	..	19	..	..	..	..	..	..	..	..	..
	14	..	14	..	..	..	..	..	..	..	..	..
lycerine of	5	..	5	..	..	..	..	..	..	..	..	..
d	16	..	16	..	..	..	..	..	..	..	..	..
et	29	..	29	..	..	..	..	..	..	..	..	..
Compound Tincture of	6	..	6	..	..	..	..	..	..	..	..	..
Spirit of	5	..	5	..	..	..	..	..	..	..	..	..
xtract	6	..	6	..	..	..	..	..	..	..	..	..
	26	..	26	..	..	..	..	..	..	..	..	..
ground	6	..	6	..	..	..	..	..	..	..	..	..
l	1	..	1	..	..	..	..	..	..	..	..	..
	23	..	23	..	..	..	..	..	..	..	..	..
	50	..	50	..	..	..	..	..	..	..	..	..
ence	1	..	1	..	..	..	..	..	..	..	..	..
ract	2	..	2	..	..	..	..	..	..	..	..	..
	14	..	14	..	..	..	..	..	..	..	..	..
	18	..	18	..	..	..	..	..	..	..	..	..
ined	8	..	8	..	..	..	..	..	..	..	..	..
Tartar	24	..	24	..	..	..	..	..	..	..	..	..
powder	23	..	23	..	..	..	..	..	..	..	..	..
	13	..	13	..	..	..	..	..	..	..	..	..
Vater	8	..	8	..	..	..	..	..	..	..	..	..
ts	21	..	21	..	..	..	..	..	..	..	..	..
ared	19	..	19	..	..	..	..	..	..	..	..	..
ed	6	..	6	..	..	..	..	..	..	..	..	..
	34	..	34	..	..	..	..	..	..	..	..	..
-raising	32	..	32	..	..	..	..	..	..	..	..	..
Sulphur	8	..	8	..	..	..	..	..	..	..	..	..
d	76	..	76	..	..	..	..	..	..	..	..	..
ed	14	..	14	..	..	..	..	..	..	..	..	..
	1	..	1	..	..	..	..	..	..	..	..	..
ound	10	..	10	..	..	..	..	..	..	..	..	..
Salt	19	..	19	..	..	..	..	..	..	..	..	..
	13	..	13	..	..	..	..	..	..	..	..	..
powder	8	..	8	..	..	..	..	..	..	..	..	..
	5	..	5	..	..	..	..	..	..	..	..	..
icture of	18	..	18	..	..	..	..	..	..	..	..	..
	28	..	28	..	..	..	..	..	..	..	..	..
	4	..	4	..	..	..	..	..	..	..	..	..
	43	..	43	..	..	..	..	..	..	..	..	..
ese	8	..	8	..	..	..	..	..	..	..	..	..
	8	..	8	..	..	..	..	..	..	..	..	..
er	7	1	6	..	1	..	..	..	..	..	..	..
Compound Powder of	14	..	14	..	..	..	..	..	..	..	..	..
	4	..	4	..	..	..	..	..	..	..	..	..
nd	1	..	1	..	..	..	..	..	..	..	..	..
	4	1	3	..	..	1	..	..	..	..	..	..
	37	..	37	..	..	..	..	..	..	..	..	..
	3	..	3	..	..	..	..	..	..	..	..	..
ared	35	1	34	1	..	..	1	1	..	..	2 0 0	0 10 6
d	5	..	5	..	..	..	..	..	..	..	..	..
Carried forward	1029	7	1022	3	1	3	3	3	..	..	2 10 0	1 16 6	

TABLE NO. I—continued

SHOWING THE PROCEEDINGS TAKEN UNDER THE PROVISIONS OF THE ADULTERATION OF FOOD AND DRUGS AND THE MARGARINE ACTS DURING 1932—continued

ARTICLE	Number of Samples obtained	Number Adulterated	Number not Adulterated	Number ordered to be Summoned	Number Cautioned	No action taken. Slightly Adulterated or Informal Sample	PROSECUTIONS					Amount of Fines Imposed		
							Number Summoned before Magistrates	Number Fined	Number ordered to pay Costs only	Dismissed or Withdrawn				
Brought forward .	1029	7	1022	3	1	3	3	3	..	..		£	s.	d.
Medicated Tablets	30	..	30	..	..	..	..	..	..	..		2	10	0
Medicated Lozenge	22	..	22	..	..	..	..	..	..	..
Medicated Tinctures	2	..	2	..	..	..	..	..	..	..
Mincemeat	7	..	7	..	..	..	..	..	..	..
Mustard	6	..	6	..	..	..	..	..	..	..
Milk	1420	119	1301	17	4	98	17	13	1	3	35	5	0	
Milk, condensed	15	..	15	..	..	..	..	..	..	..
Milk, dried	10	1	9	..	..	1	..	..	..	..
Milk of Sulphur	7	..	7	..	..	..	..	..	..	..
Oatmeal	28	..	28	..	..	..	..	..	..	..
Oil, Almond	8	..	8	..	..	..	..	..	..	..
„ Camphorated	17	..	17	..	..	..	..	..	..	..
„ Castor	12	..	12	..	..	..	..	..	..	..
„ Cod Liver	20	..	20	..	..	..	..	..	..	..
„ Neatsfoot.....	1	..	1	..	..	..	..	..	..	..
„ Olive	18	..	18	..	..	..	..	..	..	..
„ Paraffin	11	..	11	..	..	..	..	..	..	..
Ointment, Boric.....	11	..	11	..	..	..	..	..	..	..
„ Sulphur	8	..	8	..	..	..	..	..	..	..
„ Zinc	9	..	9	..	..	..	..	..	..	..
Pepper	29	..	29	..	..	..	..	..	..	..
Pickles	11	..	11	..	..	..	..	..	..	..
Pill, Iron	4	..	4	..	..	..	..	..	..	..
Pudding, Plum.....	1	..	1	..	..	..	..	..	..	..
Quinine, Ammoniated Tincture of	11	..	11	..	..	..	..	..	..	..
Rice	39	..	39	..	..	..	..	..	..	..
Rice, ground.....	17	..	17	..	..	..	..	..	..	..
Rhubarb, Compound Tincture of	2	..	2	..	..	..	..	..	..	..
Sausages	36	2	34	2	..	..	2	1	..	1	2	0	0	
Sauces	2	..	2	..	..	..	..	..	..	..
Suet	1	..	1	..	..	..	..	..	..	..
Sugar	41	1	40	..	..	1	..	..	..	..
Sweets	40	..	40	..	..	..	..	..	..	..
Sweet Spirit of Nitre	4	..	4	..	..	..	..	..	..	..
Syrup of Violets	2	..	2	..	..	..	..	..	..	..
Syrup of Squills	1	..	1	..	..	..	..	..	..	..
Seidlitz Powder	3	..	3	..	..	..	..	..	..	..
Tapioca	22	..	22	..	..	..	..	..	..	..
Tartaric Acid	20	..	20	..	..	..	..	..	..	..
Tea	43	..	43	..	..	..	..	..	..	..
Tripe	12	..	12	..	..	..	..	..	..	..
Treacle and Golden Syrup	10	..	10	..	..	..	..	..	..	..
Vegetables, tinned	8	..	8	..	..	..	..	..	..	..
Vinegar	21	..	21	..	..	..	..	..	..	..
Beer	27	..	27	..	..	..	..	..	..	..
Cider.....	9	..	9	..	..	..	..	..	..	..
Cordials	13	..	13	..	..	..	..	..	..	..
Mineral and Aerated Waters....	34	..	34	..	..	..	..	..	..	..
Spirits—														
Brandy.....	23	..	23	..	..	..	..	..	..	..
Gin	30	2	28	1	..	1	1	1	..	..	0	10	0	
Rum	42	..	42	..	..	..	..	..	..	..
Whiskey.....	45	..	45	..	..	..	..	..	..	..
Wines	22	..	22	..	..	..	..	..	..	..
TOTAL.....	3316	132	3184	23	5	104	23	18	1	4	40	5	0	

Artificial Cream Act, 1929.

Premises registered during the year	4
Premises removed from register (business discontinued) ..	1
Premises on register at close of year.. .. .	3

There have been no infringements of the Act.

Registration of Wholesale Dealers in Margarine.

Premises registered during the year	5
Premises removed from register (business discontinued) ..	11
Premises on register at close of year.. .. .	144

Notification of new registrations were sent to the Minister of Agriculture and Fisheries, in accordance with section 8 (2), Food and Drugs (Adulteration) Act, 1928. There have been no infringements of the provisions of the Act in this respect.

Food Preparing Premises.—Manchester Corporation (General Powers) Act, 1930.

Total new registrations	38
Registrations withdrawn	33
Total number of businesses on register	493

New Applications.

Twenty applications for registration were received during the year.

Inspections of the premises concerned were made and detailed reports submitted to the Medical Officer of Health regarding their structural condition and equipment.

Eight of the premises were reported satisfactory and certificates of registration granted.

Twelve were found to be unsuitable. In one of these cases the necessary requirements were carried out and the premises subsequently placed on the register. Two other premises were found capable of being rendered fit and specifications were issued indicating the requirements of the Medical Officer of Health, but the work entailed had not been completed at the end of the year.

Nine of the applications referred to premises which were incapable of being rendered suitable at reasonable cost. Five of these applications were withdrawn and registration was refused in the remaining four cases.

DETAILS OF APPLICATIONS RECEIVED.

Nature of Business	Applications for registration	Reported satisfactory and certificate of registration granted	Registered after necessary requirements fulfilled	Registration refused	Applications withdrawn	Stand- adjoin
Manufacture of—						
Sausages	6	3	1	..	1	
Sausages and potted meat	2	1	..	1	..	
Sausages and brawn, also boiling and roasting of hams	1	..	..	..	1	
Sausages and cooked meats.....	1	..	..	..	..
Sausages and pie meat	1	1	..	..	..
Potted meat	2	1	..	1	..	
Potted meat and fish paste, also boiling of hams	1	..	..	1	..	
Fish paste	2	..	..	..	2	
Boiling shell fish	1	..	..	..	1	
Roasting of pork and hams	3	2	..	1	..	
Totals	20	8	1	4	5	

Applications outstanding at the end of 1931.

Of the 40 applications which stood adjourned at the commencement of the year, the requirements of the Medical Officer of Health have been carried out at 29 premises which have been registered. Nine of the applications were withdrawn and at one premises the business was discontinued. In the remaining case extensive structural alterations were in progress at the end of the year.

Strict supervision has been maintained to ensure that premises registered for food preparation are kept in clean condition.

The total number of inspections made was 1,025.

Bakehouses.

Number on register at commencement of year	657
Number registered during the year	15
Removed from register during the year	20
Number on register at end of year	652
Inspections of bakehouses during the year	6,830

The standard of fitness of structure and equipment and the cleanliness of the premises has, in general, been high and the defects recorded below of a nature readily remedied :—

Sanitary defects remedied after cautions	10
Notice served for defects (outstanding at end of year) ..	1
Dirty conditions remedied after cautions	62
Prosecutions ordered by Committee	2
Cleansing done before issue of summons	1
Penalty imposed in one case	£2
Cautions to cleanse given (work outstanding at end of year).	7
Applications for registration of new bakehouses	26
Applications approved subject to requirements of Medical Officer of Health	20
Applications refused on ground of unfitness	6
Changes of occupiers recorded	18

Plans of six new bakehouses submitted to the Town Planning and Buildings Committee were referred to the Medical Officer of Health for approval. Five such plans were approved and one plan not approved on several grounds of unsuitability.

It is satisfactory to record a steady fall in the number of underground bakehouses, the figures for the last five years being :—

1928	47
1929	46
1930	38
1931	33
1932	32

Of the 32 underground bakehouses, 21 are not in use at present.

HOUSING ACTIVITIES.

The number of new houses completed in the City during the year was 1,948. Of these 909 were erected by the local authority and 1,039 by other bodies or persons.

The number of occupied houses on Corporation estates at the close of the year was 17,198. This figure includes 150 cottages built pre-war at Blackley. *Housing Act, 1930.*

The principal activities of the four housing inspectors, who were appointed to carry out the survey work required under this Act, were concerned with the Heaton Park Dwellings, the continuation of the survey work of the West Gorton area, and the general survey of various sections of property in the City in the form of preliminary surveys for the approximate delimitation of areas to be considered as areas for action under Part I. of the Act.

Heaton Park Dwellings.

These were temporary structures originally erected for military purposes in 1914, acquired by the Corporation in 1920, and adapted to provide housing accommodation. These dwellings were formerly under the management of the Public Health Committee, but during 1932 were under the control of the Housing Committee. For many years repairs had been a matter of extreme difficulty owing to the general dilapidation, and it was felt that the only possible line of action left to the City was demolition. To ensure that this should be done with proper safeguards the procedure provided for under the Housing Act, 1930, was adopted. This method of action was in conformity with the desire of the Ministry of Health. The survey of the property was made by the Housing Inspectors in October, 1931. The facts revealed in this survey established that the houses were unfit for human habitation and could not be made fit at reasonable expense. The dilapidations were so extensive as to require no detailed statement in this report. The following summary of facts indicates the property and the individuals involved :—

Total number of houses	100
Total population	549
Average number of persons per house	5·49
Number of houses overcrowded	3
Percentage of houses containing lodgers	13
Number of houses required to rehouse dispossessed families..	103

The City Council approved of the demolition of the dwellings and, up to the end of the year, 59 of the families had been rehoused on the Heaton Park Road Estate.

Of great interest is the action which had to be taken to disinfect the furniture and belongings in ten of these dwellings which were bug-infested. To ensure destruction of these vermin has always been a problem of great difficulty in public health work. In this instance, special arrangements were made with a firm which devotes itself to this work. So far as is known, this is the first case in which this process has been used in England. A special report is, therefore, given on the matter (*vide* p. 317), giving details of the process and observations made as a result of the experience which has been gained in the use of this method of disinfestation.

During the current year (1933) the rehousing of the families has been completed and the whole of the Heaton Park dwellings demolished.

West Gorton.

Throughout the year various detailed inspections and surveys were made to complete the final survey of this area for representation.

Other Housing Areas in the City.

From the general reports made during the past few years by the district sanitary inspectors, 13 sections of property within the City—situated mainly in the central districts—were roughly delimited by the Medical Officer of Health, and these areas were subject to general survey by the inspectors throughout the year. This survey involved 8,343 houses and 709 business premises. This survey was a preliminary, or skeleton, survey so that boundaries could be delimited and the general nature of different sections of these housing areas ascertained with a view to more accurate and definite knowledge being obtained upon which could be based recommendations by the Medical Officer of Health for action under Part I. of the Housing Act, 1930, during the coming years.

The areas thus generally surveyed were visited by the Liaison Sub-Committee (Public Health and Housing Committees) so that the local authority should be kept formally in touch with the work being carried out.

Hulme Clearance Area.

As stated in the previous annual report this area was approved as a clearance area by the City Council in July, 1931. Action has since then been deferred on various grounds. During 1932 the area was several times discussed by the City Council, and many negotiations relating principally to rehousing took place during the year. It is obvious that an area of such extensive proportions—the first really large area to be dealt with in the country under the Housing Act, 1930—involved the settlement of a considerable number of issues which inevitably must arise in the administrative application of new legislation. During the current year (1933) these negotiations and considerations have been completed, and the area was subject to an inquiry by the Ministry of Health, held in July, 1933, and the City now awaits the decision of the Minister on the City Council's resolution.

House Inspections.

Systematic inspection of dwelling-houses under section 8, Housing Act, 1925 and the Housing Consolidated Regulations, 1925-1932, has been carried out.

Primary inspections were made at 10,086 houses, which have been classified as follows :—

Unfit for human habitation	4,556
Not in all respects reasonably fit for human habitation	4,253
No defects recorded	1,277

Details of these inspections are given in Tables A, B, and C (pages 263 to 265).

In addition to the foregoing special housing inspections, primary inspections have been made under the general Public Health Acts at 12,882 houses.

The defects at 1,842 houses were remedied as the result of service of informal notices.

Statutory notices for repairs under section 17, Housing Act, 1930, were issued in respect of 823 houses ; of these 731 were rendered fit by the owners and 72 by the local authority in default.

807 houses were dealt with by notice under the Public Health Acts, and existing defects were remedied in 654 cases by the owners, and in 152 cases by the local authority in default.

The number of inspections given previously are those of primary inspections. The total number of inspections of *houses* during the year for all purposes is 94,173. A summarised analysis of this figure is to be found in Table D (page 266) and in Table III. (page 285).

Defective Houses on List for consideration of Committee.

There are many thousands of defective houses which are on the list for the consideration of the Committee under the Housing Acts and some upon which closing orders have been made, but not enforced, owing to housing shortage. Whilst the condition of these houses makes it impracticable to recondition them, defects of an urgent nature, such as choked drains, leaky roofs, broken floors and yard surfaces, etc., receive immediate attention. Letters were sent to owners regarding urgent defects at 3,979 houses of this character, and complied with at 3,284 houses. In the remaining 715 cases it was necessary to serve statutory notices.

Overcrowding.

Great difficulty has been experienced in dealing with the abatement of overcrowding.

In view of the general shortage of suitable houses, it has been found inadvisable to take statutory action except in two instances. In these cases notices were served and were outstanding at the end of the year. One notice outstanding from the previous year was complied with.

In a number of cases where the occupiers had been cautioned by the inspector, the overcrowding was abated by such means as using the parlour where suitable for a bedroom, or otherwise altering the sleeping arrangements, or arranging for members of the family to sleep out.

Representations were made to the Housing Director with a view to the overcrowded families being allocated Corporation houses in 79 cases, and 43 families were thus accommodated. In 21 cases the Housing Director could not recommend the granting of Corporation tenancies, and 15 cases were under investigation by the Housing Director at the end of the year.

Thirty-nine cautionary letters were sent, resulting in the overcrowding being abated in 15 cases.

DETAILS OF HOUSE-TO-HOUSE INSPECTIONS MADE DURING 1932 UNDER SECTION 8, HOUSING ACT, 1925.

WARDS	Number of Houses Inspected	Number of Rooms per House								Business Premises		Overcrowded Houses		
		1	2	3	4	5	6	7	Over 7	Partial	Total	Registrar-General's Standard	Manchester Standard	Social Standard
All Saints	387	..	30	75	169	85	14	9	5	88	7	12	92	69
Ardwick	280	..	2	59	109	74	26	7	3	24	8	8	62	34
Beswick	487	..	1	25	335	119	1	5	1	31	7	11	111	76
Blackley	242	..	..	6	167	57	8	3	1	11	5	1	35	21
Bradford	183	..	..	47	104	26	5	1	..	9	..	8	52	33
Cheetham	303	..	..	3	49	137	76	22	16	16	..	..	25	9
Chorlton-cum-Hardy	514	..	..	2	206	121	132	53	..	42	2	..	30	20
Collegiate Church	274	..	1	17	162	68	22	3	1	54	10	5	87	50
Collyhurst	553	..	7	240	239	54	11	2	..	90	1	29	125	91
Crumpsall	95	..	..	15	53	23	4	..	..	3	..	..	13	13
Didsbury	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Exchange	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Gorton North	408	..	..	46	180	178	4	..	..	24	1	5	67	45
Gorton South	202	..	..	21	129	52	..	..	..	30	14	5	43	28
Harpurhey	214	..	..	3	142	41	26	2	..	6	..	1	11	10
Levenshulme	360	..	2	43	129	138	28	9	11	43	..	..	32	22
Longsight	540	..	..	2	223	104	91	75	45	23	..	..	47	33
Medlock Street	293	..	3	15	179	83	11	2	..	26	7	4	66	52
Miles Platting	240	..	4	34	162	33	5	1	1	20	3	4	65	48
Moston	336	..	..	22	191	122	..	..	1	17	5	1	33	19
Moss Side East	327	..	..	6	11	31	10	68	201	19	1	1	32	17
Moss Side West	514	..	1	1	64	212	55	92	89	41	1	..	18	10
New Cross	683	24	134	84	361	59	14	5	2	86	..	85	282	203
Newton Heath	259	..	1	7	224	20	7	..	..	6	..	2	56	41
Openshaw	458	..	14	128	206	105	4	1	..	28	12	29	124	87
Oxford...	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Rusholme	106	..	..	1	5	57	41	2	..	3	..	..	3	2
St. Ann's	..	..	..	..	..	..	..	..	..	..	..	..	..	..
St. Clement's	242	..	10	89	96	31	11	4	1	13	6	15	82	54
St. George's	497	..	73	77	238	87	12	9	1	93	2	20	89	61
St. John's	..	..	..	..	..	..	69	8	27	22	5	..	14	4
St. Luke's	259	..	2	13	21	119	31	58	11	21	..	3	67	45
St. Mark's	537	..	1	42	242	152	31	25	..	9	1	..	10	6
St. Michael's	1	..	..	..	1	145	45	..	..	..	..	..	..	..
Withington...	289	..	9	6	59	1	..	..	..	..	..	..	..	..
Wythenshawe	3	..	..	2	..	1	..	..	..	..	..	..	..	..
TOTALS	10,086	24	295	1,131	4,456	2,534	763	466	417	898	98	250	1,773	1,203

TABLE B.

DETAILS OF HOUSE-TO-HOUSE INSPECTIONS MADE DURING 1932 UNDER SECTION 8, HOUSING ACT, 1925.

WARDS	Number of Houses Inspected	Want of Cleanliness	In-adequate Light	In-adequate Ventilation	Dampness	Without proper accommodation for		Disrepair	Bad Arrangement	No Defects Recorded	CLASSIFICATION			Unfit
						Food Store	Domestic Washing				Minor Defects	Serious Defects		
												Remediable without reconstruction	Irremediable without reconstruction	
Ali Saints..	387	16	340	360	33	386	58	219	379	..	1	5	189	192
Ardwick ..	280	21	81	263	139	278	55	267	268	..	1	9	74	196
Beswick ..	487	23	157	225	261	442	69	360	279	14	22	167	15	269
Blackley ..	242	11	2	..	124	242	11	83	22	5	109	118	9	1
Bradford ..	183	11	15	62	158	183	43	181	16	..	5	163	2	13
Cheetham ..	303	12	13	52	201	297	60	252	13	27	51	212	12	1
Chorlton-cum-Hardy ..	514	..	2	18	183	401	34	290	1	174	131	209	..	..
Collegiate Church ..	274	..	271	271	21	270	1	20	273	..	1	1	272	1
Collyhurst..	553	21	486	403	100	552	62	254	546	..	1	3	47	502
Crumpsall..	95	1	4	7	47	76	1	51	12	28	25	27	6	9
Didsbury ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Exchange ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Gorton North ..	408	5	41	77	241	407	42	300	21	17	11	356	13	6
Gorton South ..	202	11	9	66	120	200	38	177	12	..	1	186	6	9
Harpurhey ..	214	..	..	3	14	214	4	22	2	176	6	30	1	1
Levenshulme ..	360	4	28	55	133	324	24	210	37	26	80	214	31	9
Longsight ..	540	..	..	3	233	381	43	257	..	165	241	133	1	..
Medlock Street ..	293	31	155	213	53	293	23	222	293	..	18	24	243	50
Miles Platting ..	240	9	178	188	85	239	54	201	197	1	14	158	..	197
Moston ..	336	2	2	7	54	195	12	82	..	163	14	24	..	1
Moss Side East ..	327	..	2	30	32	291	29	135	13	113	66	145	3	..
Moss Side West ..	514	2	7	2	103	297	10	285	45	163	58	262	..	31
New Cross ..	683	319	595	669	324	682	239	349	678	3	1	5	232	442
Newton Heath ..	259	1	10	63	216	257	10	224	1	7	3	247	..	2
Openshaw ..	458	88	294	375	379	450	71	393	317	2	17	120	146	173
Oxford ..	..	..	..	..	..	..	..	..	..	..	32	74	..	..
Rusholme ..	106	..	..	1	67	106	7	72	..	..	..	..	..	..
St. Ann's ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
St. Clement's ..	242	49	163	194	150	237	54	242	242	..	..	..	179	63
St. George's ..	497	41	451	490	258	496	83	275	491	..	..	..	19	478
St. John's ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
St. Luke's ..	259	16	5	176	53	257	18	122	108	1	27	121	92	18
St. Mark's ..	537	6	69	194	234	492	56	409	201	10	35	257	1	234
St. Michael's ..	1	..	1	1	..	1	..	1	1	..	..	..	..	1
Withington ..	289	1	36	36	34	210	9	44	37	182	12	38	14	43
Wythenshawe ..	3	..	1	1	3	2	..	3	..	..	..	1	..	2
TOTALS ..	10,086	690	3,418	4,505	4,053	9,158	1,220	5,912	4,505	1,777	948	2,285	1,410	2,044

TABLE C.

DETAILS OF HOUSE-TO-HOUSE INSPECTIONS MADE DURING 1932 UNDER SECTION 8, HOUSING ACT, 1925.

No. of Rooms per Tenement	No. of Individuals in Private Families or Tenements			No. of Individuals per Room			No. of Children under 10 years per Family or Tenement			Overcrowding		
	Families or Tenements	Population	Individuals per Family or Tenement	Rooms	Population	Individuals per Room	Families or Tenements	Children under 10	Children per Family or Tenement	Registrar- General's Standard	Man- chester Standard	Social Standard
One	24	53	2.2	24	53	2.2	24	13	0.5	7	4	1
Two	295	1,101	3.7	590	1,101	1.9	295	306	1.0	78	164	118
Three	1,131	4,510	4.0	3,393	4,510	1.3	1,131	1,050	0.9	92	274	210
Four	4,456	17,021	3.8	17,824	17,021	1.0	4,456	3,114	0.7	59	1,020	780
Five	2,534	10,243	4.0	12,670	10,243	0.8	2,534	1,472	0.6	11	218	72
Six	763	3,047	4.0	4,578	3,047	0.7	763	367	0.5	1	48	12
Seven	466	2,199	4.7	3,262	2,199	0.7	466	292	0.6	2	27	5
Over Seven	417	2,533	6.1	—	—	—	417	373	0.9	—	18	5
Totals	10,086	40,707	4.04	42,341	38,174	0.90	10,086	6,987	0.69	250	1,773	1,203

TABLE D.
HOUSING CONDITIONS—YEAR ENDED 31ST DECEMBER, 1932—
IN THE FORM REQUIRED BY THE MINISTER OF HEALTH.

General Statistics.

1. *Inspection of Dwelling-houses during the Year.*

(1) (a) Total number of dwelling-houses inspected for housing defects (under Public Health or Housing Acts)	30,236
(b) Number of inspections made for the purpose.. ..	91,171
(2) (a) Number of dwelling-houses (included under sub-head (1) above) which were inspected and recorded under the Housing Consolidated Regulations, 1925	10,086
(b) Number of inspections made for the purpose	29,157
(3) Number of dwelling-houses found to be in a state so dangerous or injurious to health as to be unfit for human habitation	4,556
(4) Number of dwelling-houses (exclusive of those referred to under the preceding sub-head) found not to be in all respects reasonably fit for human habitation	4,253

2. *Remedy of Defects during the Year without Service of Formal Notices.*

Number of defective dwelling-houses rendered fit in consequence of informal action by the local authority or their officers ..	1,842
--	-------

3. *Action under Statutory Powers during the Year.*

(A) Number of reports made to the local authority with a view to service of notices	1,491
---	-------

Proceedings under sections 17, 18, and 23 of the Housing Act, 1930—

(1) Number of dwelling-houses in respect of which notices were served requiring repairs	823
(2) Number of dwelling-houses which were rendered fit after service of formal notices—	
(a) By owners	731
(b) By local authority in default of owners ..	72

(B) *Proceedings under Public Health Acts.*

(1) Number of dwelling-houses in respect of which notices were served requiring defects to be remedied	807
(2) Number of dwelling-houses in which defects were remedied after service of formal notices—	
(a) By owners	654
(b) By Local Authority in default of owners	152

TABLE D—continued

General Statistics—continued(C) *Proceedings under Sections 19 and 21 of the Housing Act, 1930.*

(1) Number of dwelling-houses in respect of which demolition orders were made	Nil
---	-----

(2) Number of dwelling-houses demolished in pursuance of demolition orders	Nil
--	-----

(D) *Proceedings under Section 20 of the Housing Act, 1930.*

(1) Number of separate tenements or underground rooms in respect of which closing orders were made	Nil
--	-----

(2) Number of separate tenements or underground rooms in respect of which closing orders were determined, the tenement or room having been rendered fit	Nil
---	-----

(E) *Proceedings under Section 3 of the Housing Act, 1925.*

(1) Number of dwelling-houses in respect of which notices became operative requiring repairs	Nil
--	-----

(2) Number of dwelling-houses which were rendered fit after service of formal notices—	
--	--

(a) By owners	Nil
-----------------------	-----

(b) By local authority in default of owners.. ..	Nil
--	-----

(3) Number of dwelling-houses in respect of which closing orders became operative in pursuance of declaration by owners of intention to close	Nil
---	-----

(F) *Proceedings under Sections 11, 14, and 15 of the Housing Act, 1925.*

(1) Number of dwelling-houses in respect of which closing orders became operative	Nil
---	-----

(2) Number of dwelling-houses in respect of which closing orders were determined, the dwelling-houses having been rendered fit	Nil
--	-----

(3) Number of dwelling-houses in respect of which demolition orders became operative	Nil
--	-----

(4) Number of dwelling-houses demolished in pursuance of demolition orders.. .. .	Nil
---	-----

Houses Let in Lodgings.

Number on register at commencement of year	1,588
Registered during the year	120
Discontinued during the year	95
Number on register at end of year	1,613

Houses within the City which are intended or used for occupation by the working classes and let in lodgings, or occupied by members of more than one family, are controlled by byelaws relating to houses let in lodgings.

Day inspections of houses let in lodgings.. .. .	2,977
Night inspections made	25

Notices (under Byelaws).

	Served	*Complied with
To furnish particulars for registration or for re-registration on change of tenancy .. .	199	220
To cleanse and limewash	6	9
To provide additional water-closets and sinks .. .	4	2

* Includes some notices served in 1931.

Infringements of byelaws reported to Committee	14
Prosecutions ordered by Committee	14
Requirements complied with before issue of summons .. .	7
Number of prosecutions	7
Summonses (for non-separation of sexes)—Withdrawn .. .	1
Adjourned .. .	1
Summonses (for overcrowding)	2
Dismissed	1
Penalties imposed .. .	2
Amount of penalties imposed	£5 10s.

Municipal Hostels.

“Walton House,” the hostel for men, was erected in 1899 upon the site of a condemned area in Harrison Street, Ancoats.

There are 465 beds in separate cubicles, which are let at 1s. per night, or 6s. 6d. per week. Residents have the use of the dining, smoke, reading, and writing rooms, and facilities are available for cooking, personal laundering, and boot repairing without charge.

The shop offers a variety of foods and other commodities, and wholesome meals may be obtained from the kitchen at a moderate tariff.

Almost all the accommodation is taken up by men who have made the hostel their permanent home, and during the year the demand for beds has continued to exceed the capacity of the house.

"Ashton House," the hostel for women, is situated in Corporation Street, City. Erected in 1910, it is a more modern building than the men's hostel, although similar facilities and conditions exist.

There is accommodation for 210 persons in separate cubicles, 63 of which on the first floor are let at 1s. per night, or 6s. per week ; the remainder, upon the second and third floors, at 10d. per night, or 5s. per week.

During the year ended 31st March, 1933, accommodation has been found for 57,850 persons, an average of 158 per night.

Van Dwellers.

Vans used for human habitation within the City are controlled by byelaws.

The majority of the vans dealt with are those on fairgrounds occupied by travelling-showmen, and usually their stay is of short duration.

Vans more permanently stationed are to be found on a few plots of land in the City, and these are occupied principally by persons unable to obtain houses at rents they can afford to pay. In the majority of these cases the vans conform to the byelaws as far as cleanliness, habitable condition, water supply, and closet accommodation are concerned.

Although the conditions cannot be considered entirely satisfactory, having regard in some cases to the close proximity of one van to another and the lack of adequate drainage and paving of the sites, it would be difficult to prove an actionable nuisance.

476 inspections of vans were made and 185 copies of the byelaws served with respect to 173 vans.

Thirty-eight cases of non-compliance with the byelaws were reported to the committee. In each case the van had been removed or the byelaws complied with before the issue of summons.

Rent Restriction Acts.

Fourteen applications were made by tenants for certificates "that the house was not in a reasonable state of repair." One application was withdrawn. Thirteen certificates were granted.

Visits paid in connection with Cases of Infectious Disease.

The following table summarises this work :—

Primary visits to infected houses	7,063
Subsequent visits to infected houses	17,862
Infectious cases investigated	7,296
Contacts visited	261
Rooms disinfected by inspectors	4,427
Rooms disinfected by tenants	4,797

SANITARY CIRCUMSTANCES OF THE AREA.

Water Supplies.

With comparatively few exceptions the dwelling-houses in the City are supplied with water from the town's mains.

The exceptions are chiefly houses situate in the outlying districts of Wythenshawe, which obtain their supplies from wells. Two cottages in Crumpsall draw their supplies from a spring.

Where there has been reason to suspect contamination of such supplies samples of water for bacteriological and chemical analysis have been taken.

Forty-four samples of water have been taken from 12 wells, etc., in connection with 25 dwelling-houses.

The results of these analyses and any action taken are shown in the following table :—

PARTICULARS OF WELLS FROM WHICH SAMPLES HAVE BEEN TAKEN AND RESULT OF ACTION TAKEN
AFTER REFERENCE TO THE CITY SURVEYOR.

		RESULT OF ACTION								
		Number of Samples taken	Number of Wells sampled	Number of Premises affected	Result of Analysis	Satis- factory	Town's Water provided and Wells closed	Wells repaired	Further Samples to be taken	Re- sult of C
CRUMPSALL	{	4	1	2	Doubtful	..	...	...	1	
		8	1	2	Doubtful	..	...	...	1	
WYTHENSHAW ..	{	2	1	4	No serious pollution (surface contamination)	..	...	1	...	
		20	7	13	Polluted	..	5	...	...
		10	2	4	Satisfactory	2	...	...	...
TOTALS ..		44	12	25						

Reports were sent to the City Surveyor relating to eight dwelling-houses in Wythenshawe which were without water supply. Five of these have since been provided with town's water and reports on the remaining three have been referred to the Town Clerk.

In the case of one well supplying two premises in Wythenshawe, samples were not taken, as the well was closed voluntarily and the water supply obtained from the town's main.

The cases referred to the Town Clerk concern houses where action cannot be taken under section 62, Public Health Act, 1875, in consequence of the houses being a considerable distance from an existing town's main and the work of extending the main cannot be carried out at a reasonable cost. In these cases the decision of the Town Clerk on the technical position is awaited.

Fifty-two primary reports of inadequate pressure of water supplied from the town's supply were referred to the Waterworks Department.

644 reports were received from the Waterworks Department concerning cases where a good supply was left at the boundary, and the owners had been notified that in consequence of inadequate pressure the internal pipes and fittings required examination. Of these cases 215 were reported by the district inspectors to the City Surveyor with a view to action under section 62, Public Health Act, 1875.

Drainage Work and Repaving of Yards and Passages.

Drainage defects are dealt with under the provisions of the Public Health Acts and local Acts and notices to remedy defects in paving of yards and passages are served under the Manchester New Streets Act, 1853.

During the year notices were served for drainage work at 1,161 premises, and for repaving of yards and passages in connection with 4,488 premises (*see Table 5*).

In cases where the drainage or repaving requirements are carried out by owners' contractors the work is supervised by the district inspectors. On owners' default, or at owners' request, the work is carried out by the department. During the year such work was carried out at 773 premises at a cost of £6,319 4s. 4d., and the recoverable costs charged to the owners.

The water test is applied to drains reconstructed or repaired, and is also applied by the district inspectors on behalf of the City Architect's department to the drains of all new buildings other than those on Corporation housing estates. The number of drains tested by water was 3,033.

Nineteen cases were reported of persons causing drains to be repaired and covered over without giving the required notice to the Corporation. This is an offence under section 31 of the Manchester Corporation (General Powers) Act, 1930. Fifteen of the offenders exposed the drains for inspection and testing on request. Three cases were reported to the Committee who ordered legal proceedings to be taken, but facilities for inspecting and testing the drains were provided before the issue of summonses. In the remaining case further action is awaiting the decision on a plan which has been submitted.

Closet Accommodation.

During the year six slopwater-closets have been converted to water-closets. In two cases, where there were alternative water-closets, slopwater-closets were removed. In the Wythenshawe district, where no sewer was available, seven privies were altered to pail closets voluntarily by the owner. At the end of the year the numbers of the various types of closets in the City were as follows :—

Water-closets	..	..	263,348			
Slopwater-closets	..		47	including	30	in Wythenshawe.
Pail-closets	..	..	1,077	„	319	„
Privies	..	..	267	„	217	„

Practically all the pail-closets and privies (with the exception of some in Wythenshawe) are situate where sewers are not available or are in connection with houses upon which closing orders have been made but not enforced owing to the shortage of houses.

Public Conveniences.

Public conveniences owned by the City number 147. These provide accommodation as follows :—

Males	..	Urinals, W.C., washing, and parcels accommodation	..	6
		Urinals, W.C., and washing accommodation	.. ..	7
		Urinals and W.C. accommodation	.. .. .	22
		Urinals	.. .. .	83
Females	..	W.C., washing, and parcels accommodation	.. ..	9
		W.C. and washing accommodation	.. .. .	9
		W.C. accommodation	.. .. .	11

The receipts for the year amounted to £6,625.

Sanitary Conveniences at Parks, Cemeteries, and Open Spaces.

1,175 inspections of the sanitary conveniences at 69 parks, cemeteries, and open spaces were made respecting the maintenance of cleanliness and freedom from nuisance.

In four cases where dirty conditions were found, and the persons in charge cautioned, the conveniences were cleansed and subsequently reported satisfactory.

Insufficient flushing arrangements and inadequate privacy were found in one case. This was referred to the Parks Department and received attention. One set of latrines not satisfactory has been referred for the preparation of plans for alterations.

ATMOSPHERIC POLLUTION.

Smoke Abatement.

A systematic observation of the industrial chimneys in the City has been maintained throughout the year.

The duties imposed by the smoke clauses of the Public Health Act, 1875, and by the Public Health (Smoke Abatement) Act, 1926, are carried out by four smoke inspectors, who devote the whole of their time to this work. The hours of duty of the smoke inspectors have been arranged so as to obtain the maximum amount of supervision of the smoke emissions from the chimneys concerned.

The need for regional administration in this respect is still felt to be essential in order to have effective control of nuisance due to smoke in urban districts adjacent to each other. With this end in view Manchester continues to be an active member of the Manchester and District Regional Smoke Abatement Committee, whose report appears on page 306.

It is satisfactory to note that a number of engineers, firemen, and boiler attendants were granted facilities by their employers to attend a course of lectures on this subject, arranged at the College of Technology. In a number of cases firms have sought the advice of the inspectors with a view to the adoption of better methods of smoke elimination. There has been a willingness shown to carry out the advice given, resulting in greater efficiency of the plants concerned and a subsequent reduction to a minimum of the amount of smoke emitted.

The following table gives details of the smoke inspectors' work. Included in the notices served are eight for "smoke other than black." "Observations" are taken only when smoke emission is actually seen :—

Timed observations taken	906
Revealing black smoke two minutes and over ..	164
Revealing black smoke under two minutes	382
Revealing smoke "other than black smoke" ..	8
Not revealing black smoke (taken upon complaints)	352
<hr/>	
Exempted chimneys revealing black smoke (included above)	27
Total amount of black smoke observed in minutes	1,214
Average amount of black smoke observed in minutes—Per observation revealing black smoke	2.22
Observations taken and not included above—	
Locomotives on railways	425
Special observations not classified	30
Cautionary letters sent <i>re</i> railway locomotives—	
Emitting excessive smoke	5
Special reports made	86
Complaints received from all sources	56
Visits to works, etc., <i>re</i> smoke abatement	1,074
Cases reported to Committee	157
Cases cautioned or excused by Committee	39
Cases referred to other Committees for action	4
Statutory notices served	74
Magistrates' orders to abate smoke nuisance obtained ..	5
Prosecutions for smoke nuisances	35
Summonses withdrawn or dismissed	2
Cases in which penalties were imposed	33
Total amount of penalties and costs	£82 5 0
Statutory notices expiring without further action	*75
Statutory orders lapsing for various reasons	5
Approximate number of chimneys	1,089

* Some of these notices were served in 1931.

FACTORIES, WORKSHOPS, AND SHOPS.

Factory and Workshop Act, 1901.

Duties under this Act have been carried out in connection with the cleanliness, ventilation, overcrowding, and structural condition in workshops, and with the means of escape in case of fire and sanitary accommodation in factories and workshops.

9,690 inspections relating to such matters have been made. In addition, 6,830 inspections of bakehouses have been made (*vide* p. 258).

Seventy-six complaints and 969 reports were received from, and 734 reports referred to, H.M. Inspector of Factories.

Workshops.

Sanitary defects or want of cleanliness were reported in 65 cases. These were dealt with as follows:—

	cases
Notices served (32) relating to	23
Referred to City Surveyor	1
Cautioned by inspectors	41
	<hr/> 65 <hr/>

The unsatisfactory conditions were remedied in 61 cases (including one case outstanding at the commencement of the year). Five cases were outstanding at the end of the year.

The particulars of the notices served to remedy defects in, or to cleanse and limewash, workshops are:—

Outstanding at commencement of the year	1
Served during the year	32
Complied with during the year	32
Outstanding at end of the year	1

Three cases of neglect to remedy defects in workshops were reported to the Committee, who ordered that legal proceedings be taken. In two of the cases the requirements of the notices were complied with before the issue of summons, and in the remaining case a prosecution resulted in the defendant being ordered to pay the costs.

Means of Escape in case of Fire.

Attention has been given to the provisions of the Factory and Workshop Act, 1901, and of the byelaws made thereunder relating to the provision and maintenance of means of escape in case of fire.

157 cases of factories and workshops insufficiently supplied with means of escape in case of fire, and 39 reports of emergency doors and windows not marked, or locks of exits not satisfactory were referred for action to the Chief Technical Assistant of the department.

Statutory certificates were issued, on the authority of the Committee, in connection with eight buildings where the means of escape were satisfactory and such certificates necessary.

In 55 cases where the means of escape were found not maintained in accordance with the provisions of the Act, cautionary letters were sent. Before the end of the year the requirements in 44 of these cases had been complied with.

One infringement of the fire escape provisions of the Act was reported to the Committee, who ordered legal proceedings to be instituted. Two summonses were issued in respect of the case, and the prosecutions resulted in the defendants being ordered to pay the costs.

Sanitary Accommodation.

The sanitary accommodation at workshops has been inspected, and complaints of insufficient accommodation at factories and other business premises have been dealt with.

The standard requirements as laid down in the Sanitary Accommodation Order, 1903, have been administered under powers conferred on the Corporation by local Acts.

Sixty-two cases of insufficient sanitary accommodation were reported, and referred for action to the Chief Technical Assistant.

Thirty-one cases of minor defects in sanitary accommodation were reported and in 28 such cases the defects were remedied without service of notice. Three of these cases were outstanding at the end of the year.

Outworkers.

In addition to other duties under the Factory and Workshop Act, the two female inspectors have made 4,416 inspections of houses in which home work is carried on by outworkers. Five of the houses were found to be in dirty condition, and these were cleansed after cautions had been given by the inspectors.

302 firms in the City employ 1,028 outworkers or contractors, of whom 889 reside in the City. The remaining 139 reside in the districts of other local authorities, to whom lists showing the names and addresses have been sent.

Shops Acts.

During the year 2,408 shops have been discontinued and 2,223 have been placed on the register. There were 20,106 shops on the register at the close of the year.

Forty-two orders for exemption from "compulsory closing," or for "fixing the day," or for "fixing the closing hour" for the several days of the week, are in operation in the City and affect a variety of trades or businesses.

22,670 visits have been made to shops to ensure the observation of the provisions of the Acts.

Five infringements of the Hairdressers and Barbers Shops (Sunday Closing) Act, 1930, and 138 infringements of the Shops Acts were reported to the Committee. The Committee ordered that the shopkeepers be cautioned in 77 cases and summoned in 66 cases. Sixty-one of the prosecutions resulted in fines being imposed amounting to £30 15s. In three cases the defendants were ordered to pay the costs, amounting to 17s., and in two cases the summonses were withdrawn, the respective defendants being fined on an alternative summons.

TABLE 2.
 FACTORIES, WORKSHOPS, AND WORKPLACES.
 1.—*Inspections.*

Premises	Number of		Occupiers prosecuted
	Inspections	Written Notices	
Factories (including factory laundries) ..	16,520	132	4
Workshops (including workshop laundries)			
Workplaces (other than outworkers' premises)			
Total	16,520	132	4

2.—*Defects Found.*

Particulars	Number of Defects			Prose- cutions
	Found	Remedied	Referred to H.M. Inspector	
<i>Nuisances under the Public Health Acts :—</i>				
Want of cleanliness	103	95	..	I
Want of ventilation.. .. .	..	..	..	..
Overcrowding .. .. .	..	..	..	..
Want of drainage of floors ..	..	..	..	..
Other nuisances.. .. .	44	38	I	I
Sanitary accommodation—				
Insufficient	62	12	..	..
Unsuitable or defective ..	31	27	..	..
Not separate for sexes ..	..	..	..	..
<i>Offences under the Factory and Work- shop Acts :—</i>				
Illegal occupation of under- ground bakehouse (S. 101) ..	..	..	..	..
<i>Other Offences :—</i>				
Excluding offences relating to outwork and offences under the sections mentioned in the Schedule to the Ministry of Health (Factories and Workshops Transfer of Powers) Order, 1921	173	127	..	2
Total	413	299	I	4

Open Market Places.

Considerable quantities of food are sold at open markets in the City. These are of the post-war development, with two exceptions.

The environmental and general hygienic conditions at these places are unsatisfactory, rendering the food sold therein liable to contamination.

The matter has been under consideration for some years, and in September the Medical Officer of Health submitted a report to the Public Health Committee recommending that Parliamentary powers be obtained to require the fulfilment of the following conditions at existing and future market places :—

- (1) Paving and drainage of the sites.
- (2) Adequate water-closet and urinal accommodation for persons employed and for the public frequenting the markets.
- (3) Adequate water supply for personal cleansing of workers and for cleansing of stalls, equipment, and market surfaces.
- (4) Adequate accommodation for refuse.

These recommendations were approved by the City Council and included in the Parliamentary Bill which was, however, subsequently rejected by a “ town’s meeting.”

Open market places in the City	Number of stalls	Number of food stalls	Percentage of food stalls
14	625	156	23·4

Offensive Trades.

The provisions of the Public Health Act, 1875, Public Health Acts Amendment Act, 1907, and the Public Health Act, 1925, are applied to the control of offensive trades within the City. At the end of the year the undermentioned offensive trades were being carried on at 799 registered premises :—

Blood Boiling ..	1	Gut Scraping	3
Bone Boiling.. ..	1	Cattle Food Manufacturing	1
Soap Boiling.. ..	5	Poultry Food Manufacturing	1
Tallow Melting ..	3	Pickle and Sauce Manufacturing ..	10
Tripe Boiling ..	6	Rag and Bone Dealing	32
Fish Curing	1	Rubber Paste or Solution Spreading..	13
Fish Frying	709	Size Making	5
Oil Distilling.. ..	3	Manure Manufacturing	1
Tanning	4		

During the year 4,407 inspections of offensive trade establishments were made by the district inspectors. Of these inspections 4,027 were of fish-frying establishments, where it is important that a high standard of cleanliness should be maintained. Whilst these premises generally were found to be clean, in 61 instances the occupiers were cautioned respecting unsatisfactory conditions; on subsequent inspections the premises were reported to be satisfactory. Offensive trades other than that of fish frying have also been systematically inspected. Complaints have been received of smells from one such registered offensive trade, and these have been dealt with immediately.

The remaining 379 inspections of other offensive trades revealed a general freedom from nuisance.

When consent is given to the establishment of an offensive trade, it is subject to any requirements of the Medical Officer of Health being completed satisfactorily, and the registration is limited to such period as may be determined by the City Council.

Twenty-nine applications to establish offensive trades were received during the year. Twenty-six of these related to the trade of fish frying, one to rag and bone dealing, one to fat melting, and one to soap boiling.

The applications were acceded to in eight cases, comprising seven of fish frying and one of soap boiling. The remaining applications were refused on account of the unsuitability of the site or premises.

Nine offensive trades were established and 14 were discontinued during the year, the particulars of which are shown as follows :—

<i>Trade</i>	<i>Established</i>	<i>Discontinued</i>
Bone Boiling .. .. .	..	1
Tallow Melting .. .. .	..	1
Tripe Boiling .. .. .	..	1
Fish Frying	6	6
Oil Distilling.. .. .	..	1
Tanning .. .. .	..	1
Gut Scraping	1	..
Pickle and Sauce Manufacturing ..	1	..
Rag and Bone Dealing	1	2
Rubber Paste or Solution Spreading	..	1
Totals	*9	14

* In three cases the permission to establish was granted prior to 1932.

Seventeen applications have been received during the year for the extension of the periods in the consents granted. Sixteen limited consents relating to the trade of fish-frying and one to that of rag and bone dealing were extended for a further period of five years.

Tips.

Supervision of the tips in the city has been carried out by the district inspectors.

At the end of the year there were 57 tips in use, 11 being used by the cleansing department, 7 by other corporation departments, and 39 by private firms.

645 inspections of tips have been made.

Corporation Tips.

During the latter half of the year there has been a steady improvement in the condition of the tips used by the cleansing department, and, compared with the conditions prevailing several years ago, the improvement has been very marked. The practice of tipping untreated household refuse has been discontinued, except at Carr's Wood tip, where the controlled method of tipping is in operation.

Two cases of emergency have arisen due to breakdowns in destructor plant, when untreated refuse has had to be tipped temporarily, but in these cases the controlled method of tipping has been applied immediately.

At five of the tips where street sweepings have been deposited the general practice has been to cover and level the deposits. One case of such deposits not being properly dealt with was reported to the cleansing department and received attention.

At Bank Street, Clayton, and Clayton Vale Road tips, which have been on fire for many years, small portions of the tip faces have blown out and ignited, but during the year the evidence of combustion has been comparatively slight. Three instances of unsatisfactory conditions at these tips were reported to and dealt with by the cleansing department.

An outbreak of fire occurred in August at the Newton Street tip, Blackley, which was also reported to the cleansing department. Subsequent inspections revealed that the nuisance had been abated.

The whole of the refuse of the Wythenshawe Ward, approximately 35 tons weekly, is dealt with at the Carr's Wood tip. This tip, the lease of which was taken over by the cleansing department in 1931, is situate on low-lying land, which is waterlogged and subject to occasional flooding from the River Mersey. The tip is isolated from dwellings, the nearest house being 320 yards distant.

When taken over the tip was not controlled, and was on fire in places. Prompt measures were taken to extinguish the fires and prevent their recurrence, and controlled tipping was introduced. The ditches and water-courses on the site have been kept clear of obstruction and have been diverted where found necessary. The tip surface has been sprayed with a paraffin solution during the summer months and comparatively few house flies have been observed. There has been no evidence of fly breeding, no fires have occurred, and no complaints of the tip have been received during the year.

The tips used by departments other than the cleansing department have been kept in a satisfactory condition generally. At two tips where unsatisfactory conditions have occurred (the tipping of combustible material at one tip, and sweepings, etc., not covered at the other), the conditions complained of were remedied after reports had been made to the departments concerned.

Private Tips.

The 39 private tips have been regularly inspected and generally found to be in a satisfactory condition. On two of these tips sweepings, etc., have been deposited and the surface covered and levelled; on the 37 remaining tips the material tipped has been chiefly clinker, builders' refuse, and excavated earth. In three instances nuisances have occurred in consequence of the dumping of combustible or organic matter, and these nuisances were abated after communications had been sent to the respective owners.

There has been a decided improvement in the conditions prevailing at the private tip at Randolph Street, Moston. This tip has been on fire for a considerable period. In November, 1930, a notice was served upon the owners under section 91, Public Health Act, 1875, to abate the nuisance caused by noxious fumes escaping into the atmosphere from the accumulation and deposits which are burning below the ground surface. The owners afterwards signed an order for the corporation to carry out the necessary work. During the year the work of controlling the fire has continued, and there has been a considerable diminution of the smouldering and of the fumes emitted. The total cost of the work at this tip up to the end of the year was £478 4s. 1d.

Stables.

There are 1,070 stables on the register accommodating 4,342 horses and 53 ponies and donkeys.

Much attention has been given to these premises to ensure their maintenance in a cleanly condition, free from nuisance, and to secure the storage and removal of manure in accordance with the byelaws.

During the year 7,554 stable inspections were made, and, generally, the premises were found to be satisfactorily kept and the byelaws observed. Two stables, however, were in such bad condition structurally that notices were served under section 91 of the Public Health Act, 1875, to discontinue the keeping of animals therein. These were subsequently complied with, but only after summonses had been served upon the occupiers.

At 12 other stables notices were served to carry out repairs. These were complied with in 9 instances ; 3 cases remaining in abeyance.

Six notices served during 1931 for stable repairs were completed during the current year.

The number of stables in the city continues to decrease. Whilst 15 have been added to the register during the year, 54 have been discontinued. The following table indicates the decrease since 1928 in the number of stables and animals kept :—

	1928	1929	1930	1931	1932	Total decrease since 1928
Stables	1,239	1,214	1,187	*1,109	1,070	169
Horses	6,329	6,164	6,153	5,104	4,342	1,987
Ponies and donkeys ..	66	66	60	56	53	13

* Includes 19 stables, which were added by the inclusion of Wythenshawe in the city in 1931.

Canal Boats.

Attention has been given to the inspection and registration of canal boats. The four waterways in the city on which canal boats ply are as follows :— River Irwell, Ashton Canal, Bridgewater Canal, and Rochdale Canal. Most of the traffic travels the Bridgewater Canal to and from the docks via the River Irwell.

1,468 inspections of boats were made and generally they were found to be satisfactory.

Contraventions of the Canal Boats Acts, and the regulations made thereunder, were found as follows :—

Absence of registration certificates	7
Boats not properly marked with registration number	3
Boats overcrowded	1
Boats found dirty	2
Boats requiring painting	6
Boats requiring repairs	7
	—
	26

In 20 of these cases the inspector verbally cautioned the owners or masters for infringements, all of which were remedied.

Six statutory notices were served, four of which were complied with during the year. Two outstanding notices from the previous year were also complied with.

Four new boats were registered and four were taken off the register. One boat was registered subsequent to structural alterations. At the end of the year 313 boats were on the register, including three propelled by steam and one by motor.

No case of infectious disease on canal boats was reported.

Removal of Infirm and Diseased Persons in Certain Cases.

Section 34 of the Manchester Corporation (General Powers) Act, 1930, provides for the removal to hospital of infirm and diseased persons who are unable to take care of themselves or receive from others proper care and attention, and reside in premises which are insanitary owing to neglect on the part of the occupier.

Generally it is found that such persons, when first approached, decline to leave their home or lodging. In most cases, after advice, they are persuaded to enter hospital. Arrangements are also made to have the necessary cleansing done.

Twelve such cases have been dealt with during the year, and thorough enquiry and consideration has been given to each. Seven of the persons concerned entered hospital. One person died before action could be taken. Cleansing was carried out at all the houses. Some improvement in the conditions has been effected in the four remaining cases, and these are being kept under observation.

In no instance has it been deemed necessary to apply to the court to make an order for the removal of a person to hospital.

Exhumations.

Exhumations have been supervised as required by Home Office Regulations to secure the work being carried out with due care and decency and in a proper manner.

During the year it was found necessary, in consequence of contemplated street widening, under the provisions of the Manchester Corporation Act, 1924, for human remains to be removed from the burial ground connected with Dob Lane Chapel, Failsworth, and situate near the boundary of Manchester.

The remains were reinterred at Failsworth Cemetery

Number of graves disturbed	20
----------------------------	---------	----

Number of bodies removed	43 adults and 47 children.
--------------------------	---------	----------------------------

During the process of the work a cast-iron coffin in good condition was found; the date on the coffin was 1869. A glass panel in the lid afforded a view of the body, which was in a good state of preservation.

Five other exhumations took place at city cemeteries. Four of the bodies were reinterred in other portions of the cemeteries and one was removed for reinterment outside Manchester.

Rag Flock Acts (1911 and 1928).

There are 47 premises in the city in which rag flock is used or sold. At one other premises rag flock, described as "jute wadding," was found to be in course of manufacture.

Seventy-one visits were made to premises on which rag flock was likely to be manufactured, used, or sold. Forty-three samples were taken, five of which were found to be below the standard of cleanliness prescribed by the Act. One of the offenders was cautioned and in the remaining cases four summonses were issued. The prosecutions resulted in two firms being fined 20s. each. Two summonses taken out in respect of alternative samples were withdrawn.

Fabrics (Misdescription) Act, 1913.

Under the provisions of this Act, 108 visits were paid to shops by the female inspectors.

In only one case was material offered for sale and bought as "Guaranteed Non-inflammable Flannelette." The material was found to be inflammable. A prosecution followed and the vendor was fined 10s. and 21s. costs.

In the 107 other instances shopkeepers did not make any attempt to sell ordinary flannelette as a guaranteed non-inflammable material.

Poisons and Pharmacy Act, 1908.

Under this Act, and the regulations made thereunder, 29 licenses have been renewed and one new license granted.

Complaints and Departmental References.

Complaints and references to this department total 10,467 in the year. As many as 7,400 of these complaints were received from private sources. The remainder are shown in the subjoined tabular statement, and were received from other departments of the corporation or from H.M. Inspector of Factories. Co-operation with the last-named Government department also involved reference from us to that department, as shown in the last paragraph of the subjoined table. These references relate to conditions which fall within the scope of the Factory and Workshop Acts, and which are administered by the Public Health Department of the city :—

References from	Department concerned	References to
2,022	Other Departments of the Corporation	4,515
1,045	H. M. Inspector of Factories	734

Ninety-four streets and passages requiring paving, etc., were referred to the Paving Committee by the Sanitary Sub-Committee during the year.

Student Sanitary Inspectors and Health Visitors.

In accordance with the arrangements approved by the Committee, facilities have been provided for practical training in sanitary inspection to student sanitary inspectors and health visitors.

Fifteen student sanitary inspectors and 21 student health visitors were given practical training by the inspectorial staff.

TABLE NO. 3.

SHOWING THE NUMBER OF INSPECTIONS AND VISITS.

Primary inspections of dwelling-houses under the Housing Act, 1925	10,086	
Subsequent inspections of dwelling-houses under the Housing Act, 1925	19,071	
Primary inspections in suggested Clearance or Improvement Areas :—		
(a) Dwelling-houses	205	
(b) Other premises	50	
	255	94,173
Subsequent inspections in suggested Clearance or Improvement Areas :—		52
(a) Dwelling-houses	225	
(b) Other premises	2	
	227	
Primary inspections of dwelling-houses under the Public Health Acts, etc.	12,882	
Subsequent inspections of dwelling-houses under the Public Health Acts, etc.	23,777	
Primary inspections of infected dwelling-houses	7,063	
Subsequent inspections of infected dwelling-houses	17,862	
Houses let in lodgings	3,002	
Tents, vans, and sheds	476	
Homes of outworkers	4,416	
Canal boats	1,468	
Bakehouses	6,830	
Food preparation premises	1,025	
Butchers' shops and bacon stores	893	
Offensive trades	4,407	
*Works	1,074	
Schools	68	
Tips	645	
Stables	7,554	
Sanitary accommodation at parks	1,175	
Business premises	3,479	
Factories and workshops	9,690	
Shops	22,670	
Wholesale margarine dealers' premises	100	
Artificial cream manufacturers	8	
New buildings, to test drains, etc.	2,148	
Drains tested by water	3,033	
Miscellaneous	18,517	
Grand Total	183,901	

* By smoke inspectors.

TABLE 4.
SHOWING WORK DONE AFTER LETTER OR INFORMAL NOTICE HAS BEEN
ISSUED.

Nature of Work	Letters or Informal Notices Issued		Complied with*	
	Letters, etc.	Premises	Letters, etc.	Premises
General repairs to dwelling-houses..	1,443	3,738	823	1,842
*Urgent defects at dwelling-houses which have been ordered to be closed or which are on the list for consideration of the com- mittee	1,964	3,979	1,618	3,284
Repairs to water-closets	426	545	345	426
Provision of ash-bins	1,061	1,131	892	960
Means of escape in case of fire and repairs at factories and workshops	58	58	48	48
Abate nuisance at tips	12	..	9	..

* Includes some letters, etc. served in 1931.

Where the work requested in letters or informal notices has not been carried out, statutory notices have since been issued.

TABLE NO. 5.

SHOWING STATUTORY NOTICES SERVED AND COMPLIED WITH UNDER PUBLIC HEALTH, HOUSING, FACTORY AND WORKSHOP ACTS, AND THE VARIOUS LOCAL ACTS AND BYELAWS.

Work specified	Number of Notices Served		* Number of Notices Complied with	
	Notices	Premises	Notices	Premises
Repairs to dwelling-houses	672	1,242	674	1,122
Provision, repair, and reconstruction of drains	776	1,161	815	1,225
Repairs to water-closets	446	677	444	616
Provision of ash-bins	179	194	183	201
Provision or repair of downspouts and eaves-gutters	707	1,096	702	1,013
Paving, flagging, or repairing of yard and passage surfaces	1,518	4,488	1,524	4,194
Cleansing and lime-washing of dwelling-houses	51	48	65	62
To abate overcrowding at dwelling-houses..	3	3	1	1
Houses let in lodgings : To furnish particulars for registration	199	199	220	220
Houses let in lodgings : To cleanse and lime-wash	6	10	9	13
Houses let in lodgings : Provide additional water-closets and sinks	4	5	2	2
To comply with byelaws <i>re</i> tents, vans, and sheds	185	173	119	113
Repairs to canal boats	6	..	6	..
Discontinue keeping animals	7	7	8	8
Repairs to stables and provision of manure-steads	12	12	15	15
Discontinue using premises as stables.. ..	4	2	4	2
Removal of horse manure	19	17	20	18
Removal of offensive accumulations	95	99	101	104
Cleansing, repair, and consolidation of private roadways	5	62	10	78
Provision of adequate means of escape in case of fire at factories and workshops ..	78	78	89	89
Cleanse and lime-wash workshops	13	7	13	7
Remedy defects in workshops (including one bakehouse)	20	17	19	16
Prevent the emission of smoke from chimneys other than dwelling-houses	74	..	75	..

* Includes some notices served in 1931.

TABLE 6.
SHOWING OFFENCES REPORTED TO THE COMMITTEE, AND SUBSEQUENT ACTION.

OFFENCE	COMMITTEE PROCEEDINGS							PROSECUTIONS								
	Cases Reported	Notices ordered to be Served	Ordered to be Summoned	Work done of Summons before Issue of	Cautioned	Reported to other Committees	Pending	Number Summoned	Number Fined	Ordered to Pay Costs Only	Magistrates' Orders Granted	Withdrawn	Dismissed	Pending	Amount of Fines £ s. d.	Amount of Costs £ s. d.
Neglecting to repair houses after notice	54	..	54	49	..	..	2	3	1	2	..	1	..	..	..	0 10 0
Neglecting to provide downspouts after notice	102	..	102	97	..	..	1	4	..	2	..	1	..	..	1 0 0	0 10 0
Neglecting to repair or provide privies, water-closets, etc., after notice	70	..	70	67	..	..	..	3	2	1	..	..	..	..	3 0 0	0 5 0
Neglecting to give notice <i>re</i> covering of drains	3	..	3	3	..	..	..	..	..	..	..	..	..	..	..	..
Neglecting to cleanse and linewash house after notice	1	..	1	1	..	..	..	..	..	..	..	..	..	..	..	..
Neglecting to inscribe the names and addresses of the Owners and the Medical Officer of Health in the Rent Book	3	..	3	3	..	..	..	..	..	..	..	..	..	..	..	..
Houses Let in Lodgings.—Dirty	1	..	1	1	..	..	..	..	2	..	..	1	..	3	5 10 0	..
Ditto	7	..	7	..	..	..	..	7	..	..	..	..	1	..	..	..
Ditto	6	..	6	6	..	..	..	..	..	..	..	..	..	..	..	..
Neglecting to comply with Byelaws <i>re</i> Tents, Vans, Sheds, etc.	38	..	38	38	..	..	..	..	..	..	..	..	..	..	..	..
Neglecting to remove accumulations of offensive matter, etc., after notice	18	..	18	18	..	..	..	2	..	1	..	1	..	..	..	0 5 0
Neglecting to discontinue keeping stables after notice	2	..	2	..	..	..	..	..	..	..	..	..	..	..	..	..
Neglecting to remedy defects in stables after notice	6	..	6	6	..	..	..	..	..	..	..	..	..	..	..	..
Allowing smoke to be emitted from chimneys, other than dwelling-houses	78	74	..	..	..	4	..	..	..	..	..	..	..	..	..	..
Allowing smoke to be emitted from chimneys, other than dwelling-houses, after expiration of notice	5	..	5	..	..	..	..	5	..	..	5	..	..	..	..	2 0 0
Neglecting to comply with Magistrates' Order to abate nuisance from smoke	74	..	35	1	39	..	..	35	33	1	..	..	1	..	80 0 0	0 5 0
Bakelhouses in dirty condition	2	..	2	..	..	..	..	1	1	..	..	..	..	..	2 0 0	..
Neglecting to maintain means of escape in case of fire at factories and workshops in a satisfactory condition and free from obstruction	2	..	2	..	..	..	..	2	..	2	..	..	..	..	..	0 5 0
Neglecting to repair and cleanse workshops after notice	3	..	3	2	..	..	..	1	2	1	..	..	..	..	0 15 0	..
Employing shop assistants on weekly half-holiday	4	..	2	..	2	..	..	2	..	..	..	..	..	..	..	..
Did not exhibit the prescribed form correctly stating the shop assistants' half-holiday	119	..	48	..	71	..	..	48	43	3	..	2	..	..	20 0 0	0 17 0
Shops open in contravention of Closing Order	10	..	7	..	3	..	..	7	7	..	..	..	..	..	3 5 0	..
Shops open in contravention of Hairdressers' and Barbers' Shops (Sunday Closing) Act, 1930	5	..	4	..	1	..	..	4	4	..	..	..	..	..	3 0 0	..
Did not exhibit abstract as to young persons in shops	5	..	5	..	..	..	..	5	5	..	..	..	..	..	3 15 0	..
Infringements of the Rag Flock Act, 1911	5	..	4	..	1	..	..	4	2	..	..	2	..	..	2 0 0	..
Infringements of the Fabrics (Misdescription) Act, 1913	1	..	1	..	..	..	..	1	1	..	..	..	..	..	0 10 0	1 1 0

SHOWING THE AMOUNTS RECEIVED FOR THE USE OF THE UNDERGROUND, ETC., CONVENIENCES, AND THE WORKING EXPENSES, ETC., DURING THE FINANCIAL YEAR ENDED 31ST MARCH, 1933.

(Continued.)

TABLE No. 7—continued

SITUATION OF CONVENIENCE	Cost of Construction	Wages and Clothing	Gas, Water, Repairs, etc.	Amount received for Use of Water-closets	Amount received for Use of Lavatories	Amount received for Left Parcels	Amount received from Sale of Sanitary Towels	Commission on Receipts from Weighing Machines	Total Receipts	Total Expenditure	Surplus	Deficit
	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.
Longsight (Males)	260 14 1	46 17 6	16 4 0	31 14 5	..	..	..	0 19 7	32 14 0	63 1 6	..	30 7 6
Ardwick Green (Females) ..	605 10 7	248 6 0	54 15 4	56 17 8	7 5 4	2 17 8	2 15 0	0 14 7	70 10 3	303 1 4	..	232 11 1
d Gorton Lane .. { Females Males	403 19 8	{ 248 6 5 37 15 6	30 11 8 11 3 1	11 2 2 14 9 9	0 7 0 ..	..	..	..	30 15 2 14 9 9	278 18 1 48 18 7	..	248 2 11 34 8 10
e Moston Lane .. { Females Males	461 9 0	{ 18 17 9 18 17 9	26 0 1 25 6 7	2 19 6 ..	..	..	..	..	2 19 6 ..	44 17 10 44 4 4	..	41 18 4 44 4 4
e Southern Cemetery { Females Males	811 17 4	{ 25 7 9 25 7 9	26 6 2 22 10 8	27 4 7 8 2 11	..	..	..	7 14 8	27 4 7 15 17 7	51 13 11 47 18 5	..	24 9 4 32 0 10
e Barlow Moor Road { Females Males	540 0 0	{ 23 0 0 23 0 0	26 6 2 26 6 2	33 17 0 19 13 3	..	..	..	1 4 8 8 7 1	35 1 8 28 0 4	49 6 2 49 6 2	..	14 4 6 21 5 10
e Levenshulme (Females)	499 0 7	246 7 8	102 18 6	35 6 6	0 9 2	5 6 8	1 0 8	0 7 11	82 10 11	349 6 2	..	266 15 3
Levenshulme (Males)		{ 37 8 1	31 16 4	17 12 1	..	..	..	6 12 2	24 4 3	69 4 5	..	45 0 2
e Gorton Town Hall (Females)	550 0 0	171 4 9	44 3 9	49 0 7	1 1 10	..	0 8 10	1 12 4	52 3 7	215 8 6	..	163 4 11
Gorton Town Hall (Males) ..	820 0 0	28 6 7	10 15 7	30 9 2	..	..	..	0 19 11	31 9 1	39 2 2	..	7 13 1
North Road (Females)	521 4 9	31 17 8	11 17 6	5 0 6	..	..	..	0 10 11	5 11 5	43 15 2	..	38 3 9
Queen's Road .. { Females Males	1110 1 10	{ 31 17 9 18 17 9	15 15 8 26 1 0	18 11 9 16 10 2	..	..	..	1 4 7 7 0 4	19 16 4 23 10 6	47 13 5 44 18 9	..	27 17 1 21 8 3
West Point .. { Females Males	1288 13 7	{ 28 12 9 28 12 9	10 0 7 11 4 0	25 0 0 11 19 5	..	..	..	0 17 0 6 16 0	25 17 0 18 15 5	38 13 4 39 16 9	..	12 16 4 21 1 4
f Kitchen Bank (Females) ..	776 7 4	248 6 5	63 16 6	28 0 10	0 12 0	0 12 4	0 16 8	0 14 1	45 1 11	312 2 11	..	267 1 0
Dean Lane .. { Females Males	1121 0 0	{ 248 6 3 18 17 8	34 9 5 6 15 7	26 6 4 8 2 0	0 12 0 ..	0 14 0 ..	0 17 8 ..	1 0 0 ..	29 10 0 8 2 0	282 15 8 25 14 3	..	253 5 8 17 12 3

SPECIAL INSPECTORS' REPORT.

Visits <i>re</i> Public Health (Meat) Regulations, 1924	1,695
„ „ Other Food Shops	47
„ „ Specifications of Work required at Meat Shops ..	3
„ „ Housing	97
„ „ Housing “Cost of Living” Enquiries	60
„ „ Food Poisoning	16
„ „ Export of Old Clothes, Washed Mutton Cloths, and Rags	37
„ „ Infectious Diseases	6
„ „ Nuisances	9
„ „ Vermin	193
„ „ Tips	13
„ „ Baths	18
„ „ Market Places	63
„ „ Miscellaneous Complaints	24
„ „ Export of Human Remains	5
„ „ Tuberculosis and Milk	116
Specimens submitted for examination at the Public Health Laboratory :—	
Food Poisoning	7
Swimming Bath Waters	9
Housing Statistics (Days)	156
Health Exhibitions (Days)	62

REPORT ON WORK DONE UNDER THE RATS AND MICE (DESTRUCTION) ACT, 1919.

The provisions of the Act, which have been in force since 1st January, 1919, require occupiers of land or premises infested with rats or mice not only to destroy them, but also to take such steps as may from time to time be necessary and reasonably practicable for preventing such land or premises from becoming infested with rats and mice.

During the year there has been a large increase in the number of complaints ; 511 being received in 1932, against 422 in 1931 and 390 in 1930 ; but the number of premises involved per complaint is gradually diminishing. In 1930 an average of 7·2 premises were affected by each complaint, in 1931 the average was 6·9 and in 1932 the average is down to 5·2.

The number of examinations of undermined surfaces continues to increase, although the percentage of premises where infestation was found to be directly due to or associated with defective or disused drains or sewers is decreasing.

The figures for the past three years are :—

1930—74 per cent., 1931—68 per cent., 1932—62 per cent.

This result is possibly associated with the lesser number of premises involved per complaint, and would appear to indicate that during the last few years some headway has been made in removing disused drains or sewers and remedying defects in drainage and sewerage systems which permitted the egress of rats. The clearing up of defects in drains and sewers may also account for the small percentage of premises at which re-infestation has occurred.

Investigation.

Complaints of the presence of rats received from occupiers, sanitary inspectors, health visitors, police, and the general public are investigated by the Rat Officers.

The premises complained of, and, if necessary, adjacent premises, are inspected to ascertain the extent and source of infestation.

Primary inspections have been made at 2,679 premises during the year ; of these, 2,256 were found to be infested with rats and 282 infested with mice. Of the rat-infested premises, 461, or 20·5 per cent., showed infestation of the interior of the building, and 1,795, or 79·5 per cent., infestation of yards, passages, land, and gardens only. The conditions found at each type of premises are shown in Table I.

Causes of Infestation.

Infestation was found to be directly due to or associated with defective or disused drains or sewers in 62 per cent. of all rat-infested premises visited ; in 48 per cent. of premises affected by interior infestation ; and in 65 per cent. of premises where infestation was confined to yards and passages only. In only 0·16 per cent. of the infested premises was the cause of infestation not determined.

A classification of the causes of infestation will be found in Table II.

Nature of Business carried on at Infested Premises.

During the year primary inspections were made at 648 business premises affected by rat infestation. Of this number 171, or 26·3 per cent., were premises at which food was prepared, stored, or sold, and 228, or 35 per cent., were factories, workshops, warehouses, and places in which the attraction to rats was the scrap food and food paper wrappings thrown about the floors or left unprotected about the premises.

Details of the nature of premises infested will be found in Table III.

Repressive Measures.

Occupiers of rat-infested premises are advised by the Rat Officers of the remedial and preventive measures which appear to be necessary. Each case is considered individually on its merits, and appropriate methods applicable to the specific type of infestation for carrying out organised rat destruction are suggested, and, where necessary, repeated re-visits are made to ensure that the measures are being carried out in an efficient manner. The Rat Officers have made 2,765 such re-visits during the progress of repressive measures.

Destruction.

Professional rat-catchers have been employed at 318 premises, and have certified to the destruction by them of 12,186 rats in the City area during the year 1932. The gassing machine has been used at 5 premises during this period.

The various Corporation departments have co-operated in these repressive measures, and baits totalling 64,235 have been laid, chiefly in the sewers, by the City Engineer's Department. 41,147 of these were taken, and the Rivers Department state: "We are more than ever convinced that the number of dead rats arriving at the sewage works by the way of the main outfall sewers has increased within the past year or two. We assume, of course, that these have been destroyed by poison baits laid in the sewers in the City by another department."

Corporation Departments, by means other than poison, have destroyed 9,030 rats during the year.

Rat-Proofing.

The condition of many of the older buildings in the City is such as to allow easy means of ingress and harbourage for rats, and in some cases effectively to rat-proof the building would necessitate reconstruction.

The attention of the occupiers of these old buildings is directed to visible defects, such as short or gnawed doors, open pipe tracks, unguarded windows and ventilators, and holes in the structure.

Measures Carried Out.

During the year 2,210 premises have been cleared of rats.

At the end of the year work was in progress by owners and occupiers at 1,266 premises, and by rat-catchers at 239 premises, making a total of 1,505 premises.

Particulars of the measures carried out during the year are detailed in Table IV.

Recurrence of Infestation.

In the period 1927 to 1931, inclusive measures for the repression of rats have been carried out in connection with 9,737 premises. At 9,295 premises (95 per cent.) there has been no complaint of re-infestation.

Re-infestation has occurred in connection with 442 premises in this period, and of these, 319 have been dealt with and again reported clear, while in the remainder repressive measures are still in hand.

The efficiency of the work done in each year during the period 1927 to 1931 is set out in Table V.

Collective Action.

The importance of concerted action by occupiers of adjacent infested premises has been emphasised and, where necessary, co-operative action has been secured for the destruction of rats and mice. *In no case was it found necessary either to serve statutory notice or to take legal proceedings.*

Tracing of Burrows in Relation to Drainage Infestation.

In the course of the 291 examinations made by the City Engineer's Department, owners and occupiers, Drainage and Sanitary Sections, 422 defects were revealed in drains or sewers which in the majority of cases proved to be the cause of infestation.

The conditions found, and the action taken in connection with this portion of the work, is shown in Table VI.

Public Exhibition.

This section of the Public Health Department was represented at a Health and Hygiene Exhibition held in March.

Clothing, foodstuffs, and other materials damaged by rats, together with various types of traps and other apparatus, approved poison baits, and rat-proofing materials were exhibited.

The public were greatly interested in the exhibits and much useful propaganda work was effected.

NATIONAL RAT WEEK, 1932.

In compliance with a memorandum from the Ministry of Agriculture and Fisheries a special effort was made in National Rat Week, 7th to 12th November, 1932.

Rat Week Propaganda.

The object was advertised extensively in the local press and on a large electric sign in the City. Two hundred large posters were exhibited on City hoardings, and 1,000 letters were sent to farmers and occupiers of other premises peculiarly liable to infestation by reason of the nature of the business carried on. All Corporation Departments were invited to co-operate.

WORK DIRECTLY ARISING FROM RAT WEEK PROPAGANDA.

	National Rat Week, 1932	Weekly Average (excluding Rat Week)
Number of complaints received	50	9·5
Premises visited in connection with complaints		
In Rat Week 231		
Subsequent to Rat Week.. .. 94		
	325	48·6
Revisits to other premises known to be infested	89	49·8

CONDITIONS FOUND AT PREMISES VISITED ON COMPLAINTS DIRECTLY
ARISING OUT OF NATIONAL RAT WEEK.

	Business Premises	Dwelling- houses	Totals
Interior infestation	44	20	64
Exterior infestation	41	153	194
Mice only	17	24	41
No evidence	13	13	26
Total	115	210	325

Advice was given in all cases by letter or verbally by the visiting officer. Arrangements were made at 12 premises for the employment of a rat-catcher.

Four professional rat-catchers reported having destroyed 800 rodents in the City during the week.

Repression Work by Corporation Departments during Rat Week.

The City Engineer's, Rivers, Markets, Cleansing, and Parks, etc., Departments carried out special measures, which included the laying of 10,263 poison baits in the sewers, and of this number 5,438 were known to have been taken.

TABLE I.

SUMMARY OF CONDITIONS REPORTED AND NUMBER OF PREMISES PRIMARILY
VISITED DURING THE YEAR 1932.

Interior Infestation			Exterior Infestation		No evidence of Infestation	
Business Premises	Dwelling-houses	Mice only	Business Premises	Dwelling-houses	Business Premises	Dwelling-houses
255	206	282	393	1,402	52	89
743			1,795		141	
Total .. 2,679						

TABLE II.

CLASSIFICATION OF CAUSES OF INFESTATION IN PREMISES PRIMARILY VISITED IN 1932.

Cause of Infestation	Interior Infestation		Exterior Infestation		Totals	Per-centage
	Business Premises	Dwelling-houses	Business Premises	Dwelling-houses		
Directly due to or associated with defective or disused drains or sewers	93	128	227	945	1,393	61·80
Nature of business carried on in premises or vicinity	55	4	41	10	110	5·00
Waste and refuse dumps	7	1	8	100	116	5·12
Neglect in the protection of food scraps and wrappings	57	28	60	179	324	14·30
Dilapidated premises	25	25	8	28	86	3·80
Demolition or building operations in vicinity	4	8	14	38	64	2·82
Proximity of open or culverted water-courses	14	11	35	99	159	7·00
Use not determined .. .. .	..	1	..	3	4	0·16
	255	206	393	1,402	2,256	100·00

ANALYSIS OF DRAINAGE INFESTATION.

Infestation	Business Premises		Dwelling-houses		Totals
	Interior	Exterior	Interior	Exterior	
Total number of primary investigations into rat infestation = 100 per cent. ..	255	393	206	1,402	2,256
Directly due to defective or disused drains or sewers	65	181	73	885	1,204
Associated with defective or disused drains or sewers	28	46	55	60	189
Total number of premises affected by drainage infestation	93	227	128	945	1,393
Percentage of drainage infestation in each group	36·47	57·76	62·13	67·40	61·80

TABLE III.

NATURE OF PREMISES INFESTED DURING THE YEAR 1932.

Particulars of Premises	Interior		Confined to Yards, or Adjoining Lands.	Totals
	Rats	Mice	Rats	
Restaurants, cafes, snack bars, etc.	18	1	1	20
Butchers, greengrocers, grocers, bakers, confectioners, tripe shops, fried fish shops, sweet shops, licensed premises, dairies, provision warehouses, sausage makers, horsebeef dealers, etc.	45	22	107	174
Rag dealers, stables, piggeries, poultry dealers, etc.	6	..	20	26
Farms, farm buildings, parks, land tips, yards, allotments, etc.	8	..	52	60
New buildings under construction, new building estates, builders' stores, garages, outbuildings, etc.	9	..	39	48
<i>Factories and Workshops.</i> —Cloth, clothing, laundry, furniture, joiners, printers, plumbing, boot repairs, photographers, etc.	43	2	36	81
<i>Warehouses.</i> —Clothing, paper, hardware, furniture, electrical appliances, furriers, cloth, etc.	26	6	17	49
<i>Shops.</i> — Outfitters, drapers, furriers, milliners, chemists, stationery, news- agents, boots, fancy goods, tailors, hair- dressers, tobacconists, hardware, jewellers, wireless, undertakers, etc...	50	10	56	116
<i>Institutions.</i> —Churches, schools, hospitals, club houses, child welfare centres, clinics, etc.	8	8	13	29
<i>Public Halls.</i> —Town Hall, co-op. halls, dance halls, billiard halls, cinemas, theatres, etc.	2	4	5	11
Offices	13	7	33	53
Unoccupied premises	27	4	14	45
Dwelling-houses	206	218	1,402	1,826
Totals	461	282	1,795	2,538

TABLE IV.

RAT DESTRUCTION AND PREVENTIVE MEASURES CARRIED OUT DURING
THE YEAR 1932.

Measures carried out	By whom carried out	Business Premises	Dwelling-houses	Totals
Prevention only	Occupier	19	26	45
Destruction only	Occupier	27	177	204
	Owner	11	—	11
	Rat-catcher	11	3	14
Destruction, Proofing, and Prevention	Occupier	142	215	357
	Owner	1	1	2
	Destruction by occupier, proofing by owner	25	50	75
	Destruction by rat-catcher, proofing by occupier	19	20	39
	Destruction by rat-catcher, proofing by owner	19	7	26
	Destruction by occupier, sewers by City Engineer	197	987	1,184
	Destruction by occupier, drains by owner	69	184	253
	Totals	540	1,670	2,210

TABLE V.

PERCENTAGE EFFICIENCY AT THE END OF THE YEAR 1932 OF THE WORK
DONE IN EACH YEAR DURING THE PERIOD 1927 TO 1931.

Particulars	Year				
	1927	1928	1929	1930	1931
Number of premises reported clear of rats in the years	1,329	1,670	2,202	2,481	2,055
Premises where re-infestation has occurred and has been dealt with subsequently. Again reported clear of rats	125	154	29	11	—
Re-infested premises at which repressive measures are still in hand	36	56	18	5	8
Premises dealt with at which there is no further complaint of the presence of rats	1,293	1,614	2,184	2,476	2,047
Percentage efficiency of the work done at the end of the year 1932	97.29	96.64	99.18	99.79	99.61

TABLE VI.
TRACING OF RAT BURROWS IN RELATION TO DRAINAGE INFESTATION.

Number of examinations made by ..	{ City Engineer 150	Owners and Occupiers 125	Drainage Section 11	Sanitary Section 5	TOTAL 29
<i>Conditions found or action taken.</i>					
Defective sewers requiring reconstruction ..	4	..	4	..	
Sewers reconstructed	3	..	4	..	
Minor defects in sewers repaired	99	..	17	..	11
Disused privy midden drains removed ..	36	3	13	..	5
Other disused drains removed, dealt with, or referred to Drainage Section	60	46	6	15	12
Outlet drains repaired	26	..	5	..	3
Defective drains remedied by owners or referred to Sanitary Section	3	56	..	14	7
Street drain inlets repaired	15	..	..	..	1
Outward rat burrows consolidated	22	9	2	..	3
Surface rat burrows consolidated	10	60	1	..	7
Undermining due to other causes than rats.	1	..	..	..
Totals	279	174	52	29	53

OTHER DRAINAGE EXAMINATIONS BY SANITARY SECTION MADE DURING THE
YEAR AT THE INSTANCE OF THE RAT SECTION.

Premises examined in consequence of suspected drainage infestation	64
Premises at which drainage work required under notice has been completed during the year	63
Premises at which drainage work required by notice was in progress at the end of the year .. .	20
Notices to repair defective drains served or in course of preparation	6

PARTICULARS RELATING TO THE OPERATIONS OF THE CLEANSING DEPARTMENT.

The Medical Officer of Health is indebted to the Director of Public Cleansing for the following particulars relating to the operations of the Cleansing Department during the year ending 31st March, 1932.

The administration of the Cleansing Department of the City of Manchester is under the supervision of a Director, with a staff of about 75 officials and 1,837 workmen.

For Departmental purposes the cleansing of the City is divided into a House and Trade Refuse Section and a Street Cleansing Section.

The work of the House and Trade Refuse Section includes the emptying of old privies and pail closets and the collection and disposal of household refuse, and garbage from the Public Markets; whilst the Street Cleansing section deals principally with the cleansing of the streets and disposal of refuse collected therefrom.

The extent of the Department's operations may be gathered from the following general statistics:—

The net expenditure of the Department, including loan charges, amounted to:—

	£	s.	d.
House and Trade Refuse Section	244,529	8	5
Street Cleansing Section	133,466	12	6
	<hr/>		
	£377,996	0	11

House and Trade Refuse Section.

There are within the City 185,344 dwelling-houses, 3,949 lock-up shops, 16,147 mills, warehouses and offices, and 11,322 miscellaneous premises. From these premises during the past year there were collected and disposed of 185,917 tons of ashes, 4,069 tons of nightsoil and pail contents, 26,887 tons of warehouse and trade refuse, 5,345 tons of slaughter-house refuse, 1,876 tons of stable manure, 970 tons of fish refuse, 4,343 tons of market garbage, and 679 tons of waste paper.

Previous to 1872 the midden-privy system was in operation, but the Corporation then decided upon the introduction of what is known as the pail-closet system, the scarcity of water preventing the adopting of the water-carriage method. Since the water difficulty has been solved the conversion of pail-closets into water-closets has been proceeded with, and is rapidly nearing completion. There are now only 274 privies and 1,071 pail-closets within the City.

In later years it was decided to replace the wooden ash-boxes by galvanized iron receptacles with lids, and there are now 201,833 of the latter.

TABLE SHOWING NUMBERS OF PRIVIES, PAILS, ASH-BOXES, AND ASH-BINS
FOR PERIOD 1912-1932.

Year	No. of Privies (with Ashpits)	No. of Pails	No. of Wooden Ash-boxes	No. of Galvanized Iron Ash-bins with Lids
1912	1,982	10,000	50,421	88,762
1913	292	3,850	41,645	101,239
1914	218	2,128	31,875	112,843
1915	157	1,710	24,677	121,191
1916(a)	236	1,671	16,653	142,107
1917	230	1,665	12,469	146,246
1918	230	1,633	11,230	147,616
1919	217	1,327	8,011	151,609
1920	217	1,326	4,827	153,962
1921	217	1,322	2,181	156,587
1922	217	1,310	1,681	160,347
1923	217	1,300	1,440	165,165
1924	217	1,244	1,140	168,905
1925	217	1,229	940	171,184
1926	217	1,225	716	183,930
1927	80	1,148	520	187,242
1928	73	1,127	—	191,814
1929	73	957	—	195,619
1930	60	917	—	197,631
1931	59	889	—	198,720
1932(b)	274	1,071	—	201,833

(a) District of Withington incorporated.

(b) District of Wythenshawe incorporated.

The removal of domestic refuse takes place once a week.

The fleet of barges for removal of refuse is now 13.

Twenty motor and four horse sweeping machines are employed on the streets, a total of 43,430 loads of sweepings, litter, etc., being collected.

General.

The total weight of material dealt with by the House and Trade Refuse and Street Cleansing Sections of the Department during the year was 273,515 tons, being equal to 900 tons per working day.

TABLE SHOWING THE DISPOSAL OF MATERIAL COLLECTED TWELVE MONTHS
ENDING MARCH, 1932.

House and Trade Refuse.

	Tons
Incineration	112,712
Separation Plant Treatment	38,030
Boat to Estates	31,117
Rail to Estates	3,112
Sales to Farmers	510
Concentrated Manure Manufacture	1,371
Old Tins, Metals, etc. (hand picked) ..	1,102
Controlled Tipping	39,907
Meat Products	335
	<u>228,196</u>

Street Cleansing.

	Loads
Incineration	384
Boat to Estates	11,984
Rail to Estates	10,894
Controlled Tipping	14,954
Sales to Farmers	293
Drainage	4,921
	<u>43,430</u>

The amount of refuse taken to the Carrington and Chat Moss Estates since they were purchased by the Corporation is as follows :—

Chat Moss Estate	1,778,592 tons in 34 years.
Carrington Estate	1,237,912 „ 44 „

The estates are divided among 58 tenants, occupying an aerodrome, farmsteads, and nurseries.

The Corporation erected the farmsteads, and provision was made for an adequate supply of town's water. There are two railway sidings on the estate and two wharves on the Ship Canal. The market value of the estates has considerably increased since their purchase, chiefly through cultivation and owing to the proximity of the Manchester Ship Canal.

SPECIAL REPORTS.

MANCHESTER AND DISTRICT REGIONAL SMOKE ABATEMENT COMMITTEE.

An important feature of the work of the Regional Committee during the year has been the holding of an elementary course in Fuel Economy and Smoke Abatement, specially arranged to meet the requirements of boiler firemen. The classes were held at the Manchester Municipal College of Technology at the request of the Regional Committee, who felt that the course in the subject usually held there was of rather too technical a character for the average boiler fireman. The Committee are greatly indebted to the College Authorities in responding to the suggestion with regard to this special course. It is highly gratifying to know that as a result of the Committee's publicity respecting these classes amongst manufacturers in the various districts upwards of 90 students were enrolled and the average attendance was about 80.

It is the aim of the Committee that similar classes should be arranged in various other centres of the Regional Area in the near future. An examination is to be held at the end of the course, and certificates will be awarded to successful students by the Regional Committee.

The Committee were pleased to learn that many employers offered special facilities for the attendance of their boiler firemen, and the encouragement thus given is an excellent augury for the future and indicates a greater appreciation of what the Committee have emphasized from time to time, namely, the value of more scientific methods in the use of boiler plant in relation to smoke abatement, and that an efficiently working plant means the consequent reduction of smoke emission and lower fuel costs.

It is interesting to note that the question of regional smoke abatement has been a matter of special attention by the National Smoke Abatement Society, as will be seen from the following resolutions adopted by the Council of that Society at a meeting held on January 26th, 1932:—

“The Council of the National Smoke Abatement Society, having considered the administration of the law relating to smoke abatement in this country, and having noted the grave defects inherent in the present system

Resolves,—

- (1) That Local Authorities be urged to combine for the purpose of setting up suitable statutory regional organisations for the administration of smoke abatement law.
- (2) That, pending the formation of statutory regional organisations, Local Authorities be urged to establish Advisory Committees similar to those already in existence ; and
- (3) That the support of the National Smoke Abatement Society be given to such projects as will further these proposals.

- (4) The Council further resolves that copies of these resolutions and of the accompanying Preamble be sent to the Minister of Health, to the existing Regional Committees, and to the Public Health Committees of all Local Authorities concerned, requesting the last to discuss the proposals and to signify approval and support of their substance.

It was agreed that the resolutions be adopted."

The foregoing resolutions were approved by the Committee.

The usual quarterly meetings of the Executive and half-yearly meetings of the full Committee were held, in addition to a number of meetings of the Sub-Committee appointed to deal with the arrangement of the special elementary course at the Manchester Municipal College of Technology.

In accordance with the usual practice, addresses were given at the full meetings of the Committee.

At the May meeting Dr. Margaret Fishenden, of the Department of Scientific and Industrial Research, spoke on the subject of "Smokeless Methods of Producing Heat."

At the November meeting Dr. T. W. Naylor Barlow, O.B.E., Medical Officer of Health to the County Borough of Wallasey, gave an address on "The Effects of Smoke on Health."

Continuing the educational propaganda, and with a view to maintaining interest in the subject of smoke abatement, pending the time when further efforts towards the establishment of a Regional Joint Smoke Abatement Board may be made, suitable literature published by the National Smoke Abatement Society has been purchased by the Committee and distributed amongst the various affiliated authorities.

Investigations into certain special types of domestic fireplaces have been made, but nothing of an exceptional character has been discovered, with the exception, perhaps, of one at Sheffield, which was inspected by a deputation consisting of representatives of the Regional Committee and the Manchester Public Health and Housing Committees. The possibilities of this type were thoroughly investigated. Whilst the deputation agreed that if the fires were properly stoked and the dampers manipulated the emission of smoke occurs for relatively shorter periods in the one inspected than in some other types, it was decided, having regard to the fact that the attainment of satisfactory results was so dependent on the human factor and that the cost was high, no further action be taken in the matter.

The number of authorities represented on the Committee at the end of the year was 65, one less than the previous year.

PASTEURISATION OF THE CITY'S MILK SUPPLY.

From the public health point of view, the pasteurisation of milk is of value primarily for two reasons:—

- (a) to improve the keeping qualities of the milk.
- (b) to destroy organisms present in the milk which are capable of producing disease in the consumer.

The first of these reasons has caused a very considerable proportion of the milk trade to adopt pasteurisation as an advantageous aid to business.

Pasteurisation when first introduced was done by the Flash method—raising the milk rapidly and for a short time to 180°F. This method quickly fell into disrepute for many reasons, and there has been substituted for it the “Holder” process of pasteurisation. This is the process now in general use, and consists of heating the milk to a temperature of 145° to 150°F., and keeping the milk at that temperature for not less than half-an-hour. The milk is thereafter rapidly cooled. This mode of pasteurisation does not destroy all bacteria in the milk, but it does destroy almost entirely those germs which are capable of producing disease in man. It is mainly for this reason that pasteurisation is recognised as a powerful weapon in the protection of health. Except in cases where the milk is to be delivered in bulk, pasteurised milk is normally nowadays bottled immediately it is cooled and delivered in bottles to the consumer.

There is no doubt but that the public is by this process greatly protected against the risks of milk-borne disease. The diseases in the past which have been mainly carried by milk are scarlet fever, septic sore throat, typhoid fever, dysentery, tuberculosis, and certain intestinal infections. Pasteurisation affords complete, or nearly complete, protection against all of these diseases in so far as they are milk-borne. Details are given later on this particular aspect of the question.

Pasteurisation of milk is carried out—

- (a) by firms licensed to sell milk as “Pasteurised”. This means the preparation and sale of milk as “graded” milk and requires that the firms shall observe all the conditions laid down in the production of such milk by The Milk (Special Designations) Order, 1923, *e.g.*, temperature of milk on sale, labelling of milk as “Pasteurised,” certain limits of bacterial content, etc.
- (b) by firms who pasteurise simply as a business procedure. In this case there are no such conditions as are mentioned in (a) and technically there is no authority vested in the City to control this process of pasteurisation, or the condition of the milk when sold, other than those generally governing the milk supply.

If, as is recommended in this report, pasteurisation of the whole milk supply of the City is to be required, the conditions governing the production of "pasteurised" milk under The Milk (Special Designations) Order, 1923, should be applied. This will not affect trade interests any more than ordinary trade pasteurisation does; it will, indeed, confer advantages, and will give certain securities in the control of pasteurisation which otherwise would not exist.

The experience of Manchester in relation to milk-borne disease may conveniently be grouped under two headings:—

(1) General infectious diseases.

(2) Tuberculosis.

General Infectious Diseases.

In 1900, 22 cases of typhoid fever were traced to a dairyman who had suffered from a mild attack of this disease. In 1909, 107 cases of scarlet fever were traced to milk supplied from a farm in which there were three milkers suffering from a mild illness with symptoms of scarlet fever. In 1915, ten cases of typhoid fever in Manchester and an adjoining area, were traced to the milk supplied from a farm where one of the milkers was found to be a carrier. In 1915-16, eleven cases of diphtheria arose in a milk round where one of the distributors was a carrier of diphtheria. In 1922, 123 cases of scarlet fever arose from an infected milk supply. The infection was traced to a farm where a series of cases of sore throat and one definite case of scarlet fever had occurred amongst the workers. In 1930, 17 cases of bacillary dysentery occurred at a school, due to the infection of the milk by a carrier amongst the school children. This milk was delivered in bulk form. The infection was produced after the delivery of the milk and emphasises the importance of "bottled" supplies. In August, 1931, a case of undulant fever was traced to a milk supply containing the bacillus of this disease. This condition, although becoming more definitely recognised in its association with milk, is not common and has not so far formed a serious issue in relation to milk supply.

Manchester has therefore had six outbreaks of milk-borne infectious disease in the past thirty years, four of which occurred in the last 15 years. The risk of such an outbreak is always present. In this country since 1904, there have been 92 definite outbreaks recorded of milk-borne infectious disease.

Pasteurisation, when properly carried out, gives an almost complete protection against this group of illnesses and is therefore of the greatest value as a public health measure.

Tuberculosis.

It is generally accepted now, that the bovine strain of tubercle is distinct from the human strain. The occurrence of the bovine tubercle bacillus, therefore, in diseased tissue in man is accepted as definite evidence of the source of infection. This view is reiterated in "A Memorandum on Bovine Tuberculosis in Man" published by the Ministry of Health in 1931. In that Memorandum the following Table is given, showing the incidence of the bovine tubercle bacillus in different forms of tubercular disease in man and especially in children :—

TABLE I.

Variety of Tuberculosis	Number of Cases	Percentage of Cases infected with Bovine type of Tubercle Bacillus		
		0-5 years	5-15 years	All Ages
Cervical Gland	133	84·0	51·5	48·9
Lupus	168	62·5	53·2	52·4
Scrofuloderma	59	50·0	43·2	35·6
Bone and Joint	541	29·4	18·6	18·7
Genito-Urinary	23	..	..	17·4
Meningitis	33	33·3	35·0	27·3
Pulmonary	795	..	..	2·6
Post-mortem Cases	183	29·7	14·3	22·3

These figures refer only to cases in which the bovine tubercle bacillus was actually recovered from the tissues of the patient. The main fact revealed by the Table is that a very high percentage of cases of non-pulmonary tuberculosis in childhood is due to infected milk. Tubercular disease of the lungs in childhood due to infected milk is practically negligible in quantity. The subsequent Tables referring to the incidence of tubercular disease in children in Manchester are therefore confined to the non-pulmonary group.

Tables 2 and 3 (at the end of the report), show that both in incidence and in mortality, non-pulmonary tuberculosis has shown a steady decline during this century. This is due to a variety of causes, but there is nevertheless, still a large number of cases occurring each year in the child population, the annual average of new cases notified for the last five years being 259. It is not an unreasonable presumption, in view of the figures given in Table 1, to say that nearly half of that number of cases arises from infected milk. It is therefore obvious that any means whereby we are enabled to protect the

child population from this infection (whilst maintaining the nutritive qualities of milk unimpaired) ought to be adopted. That this protection can be afforded is clearly demonstrated by the results of the bacteriological examination of the milk which has been pasteurised in the City during the past five years.

EFFECTS OF PASTEURISATION UPON MILK.

Nutritive Qualities.

Pasteurisation, if carefully carried out, has an almost negligible effect upon the nutritive properties of milk. There are some slight changes in the salts of milk and of the milk proteins (the flesh forming substance). Of the vitamins, only Vitamin "C" is injuriously affected by pasteurisation, and that not to a very serious extent. Speaking generally, present knowledge indicates that the system of pasteurisation which is laid down in the conditions of production of pasteurised milk in The Milk (Special Designation) Order, 1923, leaves the nutritive quality of milk practically unimpaired.

Bacteriological Content.

During the five-and-a-half-years—January, 1926, to August, 1931—1,643 samples of pasteurised milk were submitted for general bacteriological examination in Manchester, and 579 samples were, during the same period, examined for the presence of tubercle. The results of the general bacteriological examination are, in the great majority of cases, much better than the standard of bacteriological purity required for pasteurised milk under The Milk (Special Designations) Order, 1923, and are incomparably superior to the bacteriological condition of raw untreated milk.

Of the 579 specimens examined for tuberculosis, 13 gave positive results—a percentage of 2·24 positives. Where tuberculous infection has persisted in milk pasteurised in the City, there has in almost every instance been found to be an undue variation of the temperature of pasteurisation of the milk on the day on which the sample was taken. On the other hand some firms, the mechanical efficiency of whose pasteurising plant is such as to maintain the temperature at an unbroken level, have had no positive results throughout these years. The indications are, therefore, in favour of the view that properly supervised pasteurising plant can be run so that the temperature is maintained at the proper pasteurising level, and, if this be done, the likelihood of the survival of the tubercle bacillus is very remote. Such supervision is an essential part of the recommendations made at the end of this report.

This opinion—based upon the actual work done in the City—is in complete accord with the views of the Ministry of Health as expressed in the Memorandum already referred to, viz. :—

"that pasteurisation carried out in a suitable apparatus and under strict scientific control is capable of protecting the consumer from the danger of infection with tubercle bacillus, and that milk so treated appears to retain its valuable food properties practically unimpaired."

INCIDENCE OF TUBERCULOSIS IN MANCHESTER MILKS.

The records of examinations of milks sent into Manchester for the thirty years, 1901 to 1930, show that of the supplying farms an annual average of 10·7 per cent. sent milk infected with tuberculosis into the City. During the last five years the percentage has been as follows:—

1926	..	..	..	..	10·33
1927	..	..	..	..	11·09
1928	..	..	..	..	17·57
1929	..	..	..	..	12·62
1930	..	..	..	..	14·26
1931	(First six months)				15·97

The higher figures of recent years are in large part due to a more stringent standard having been adopted in the routine application of the biological test. Nevertheless, the continued incidence of tubercle (even at the level of 10 per cent. of the farms) is a serious factor in the production of tuberculosis, particularly amongst young persons of the population. None of the administrative procedures hitherto adopted in the country has effected any satisfactory reduction in the incidence of tubercular infection of milk, nor is there any procedure in existence which will guarantee such a reduction at the source of production, so that a full supply of raw milk may be obtained tubercle-free.

Routine veterinary inspection of all milk herds would afford some protection against gross tubercular contamination of milk at the source. The attainment of even this degree of improvement would take a considerable period of years. In the present state of our knowledge it is unlikely that such inspection will succeed in clearing our milk supply of tubercle. Systematic veterinary supervision of milk herds possesses great hygienic values in other directions than the incidence of tuberculosis—these are not germane to our immediate issue. In any event, the counties from which Manchester derives most of its milk have not instituted such a system of routine veterinary work. *The only sure protection, therefore, which can be offered to the public is the destruction of the tubercle bacillus in the milk before distribution, i.e., pasteurisation under proper scientific supervision and control.*

Present Position of Pasteurisation in the City.

Approximately 70–80 per cent. of the total milk supply of the City is at present pasteurised. This pasteurisation may either be carried out on premises licensed for this purpose under The Milk (Special Designations) Order, 1923, or on premises not licensed, where the pasteurisation is done solely as “business” treatment of the milk.

There remains 20–25 per cent. of raw untreated milk in the City. This contains a small proportion of the higher grades of the specially designated milks, but mostly consists of ordinary raw milk. This milk should, for the safety of the public, also be subject to pasteurisation before distribution.

In licensed premises the pasteurisation must be carried out in accordance with the requirements of The Milk (Special Designations) Order, 1923. There are no such powers conferred upon the City insofar as the non-licensed pasteurising establishments are concerned. If the standard of pasteurisation is to be such as to ensure the best results from the point of view of public health, the Local Authority should have power to require in all cases that the pasteurising plant shall be of satisfactory type and to ensure, by regular inspection and testing, the maintenance of efficient working and good results.

Producer Retailers and Retailers from Outside Areas.

These retailers may either be farmers who come in and sell their milk in the City, or they may be milk-shop keepers in adjoining areas supplying neighbouring parts of Manchester. There are 82 such retailers registered in the City. The City authority is bound to register such retailers for the distribution of milk if they are registered in the outside area. In the event of the City seeking powers to compel pasteurisation of the whole milk supply the case of these retailers might offer difficulty, and it would be necessary to make special provision in these powers, conferring upon the City the right to refuse registration to such persons, or, alternatively, the right to require the provision of plant similar to that to be insisted upon within the City boundary, and the consequent right of inspection and supervision of such plant. That this would be necessary is evidenced by very considerable tuberculous infection of this group of milks which has been revealed in the work of the department.

Recommendations.

It is, therefore, recommended that steps should be taken to obtain powers for the Local Authority :—

(1) To compel pasteurisation of the whole milk supply of the City as provided for in the production of “pasteurised” milk under The Milk (Special Designations) Order, 1923—such requirement not to apply to Certified Milk or Grade A. (tuberculin tested) Milk.

(2) To enable the City Authority, as a condition of registration of the business, to require the installation of a satisfactory pasteurising and cooling plant, and

(3) To confer upon the City such powers of inspection and examination as are necessary to guarantee the maintenance of a proper standard of pasteurised milk.

(4) That to obviate any hardship which might arise from the conferment of such powers upon the Local Authority, a period of twelve months should be allowed to elapse between the date of passing of the Act and the date when the provisions become operative.

TABLE II.
CITY OF MANCHESTER.

NON-PULMONARY TUBERCULOSIS OCCURRING IN PERSONS UNDER 15
YEARS OF AGE.

Year		Notified Cases		Deaths	
		Facts	Rate	Facts	Rate
1901	.....	No Record	†	357	0·65
1902	.....			318	0·58
1903	.....			367	0·66
1904	.....			316	0·57
1905	.....			310	0·55
1906	.....			340	0·60
1907	.....			298	0·52
1908	.....			328	0·51
1909	.....			313	0·48
1910	.....			354	0·49
1911	.....			282	0·39
1912	.....			295	0·41
1913	.....	955	1·30	287	0·39
1914	.....	600	0·81	293	0·40
1915	.....	506	0·68	226	0·31
1916	.....	531	0·70	254	0·34
1917	.....	559	0·73	252	0·33
1918	.....	431	0·56	181	0·24
1919	.....	258	0·34	151	0·19
1920	.....	292	0·37	138	0·18
1921	.....	333	0·45	145	0·20
1922	.....	391	0·52	167	0·22
1923	.....	441	0·59	124	0·16
1924	.....	377	0·50	146	0·19
1925	.....	394	0·52	106	0·14
1926	.....	266	0·35	98	0·13
1927	.....	289	0·38	89	0·12
1928	.....	269	0·35	80	0·10
1929	.....	194	0·25	71	0·10
1930	.....	277	0·36	88	0·11

† These rates are per 1,000 living and are calculated on the total population.
Notification not in force before 1913.

TABLE III.
CITY OF MANCHESTER.

New Cases of Non-Pulmonary Tuberculosis, under the age of 15 years, notified during the years 1921 to 1930—In Age Groups. Also percentage to total cases occurring.

Year	Age Groups					Total Number Cases all Ages	Total Number Cases under 15 years	Per cent. under 15 years to Total Cases
	0-1	1-5	5-10	10-15	Totals			
1921 ..	16	91	129	97	333	545	333	61·1
1922 ..	13	134	132	112	391	605	391	64·6
1923 ..	18	124	163	136	441	730	441	60·4
1924 ..	20	127	128	102	377	623	377	60·5
1925 ..	13	129	139	113	394	622	394	63·3
1926 ..	17	86	82	81	266	463	266	57·5
1927 ..	11	96	107	75	289	503	289	57·5
1928 ..	12	74	112	71	269	490	269	54·9
1929 ..	11	65	78	40	194	375	194	51·7
1930 ..	17	89	108	63	277	466	277	59·4
Totals..	148	1,015	1,178	890	3,231	5,422	3,231	..
Means 10 years	15	101	118	89	323	542	323	..

TABLE IV.
CITY OF MANCHESTER.
Tuberculous Milk, 1901-1930.

[illegible]

DISINFESTATION BY A CYANIDE PREPARATION OF VERMINOUS FURNITURE, CLOTHING, AND PERSONS ON THE TRANSFERENCE OF TEN FAMILIES FROM THE EX-ARMY HUTS AT HEATON PARK TO NEW HOUSES AT HEATON PARK ROAD, BLACKLEY, MANCHESTER.

The total number of inhabited huts was 98. Every hut and the contents was examined by the Housing Inspectors for the presence of vermin. In 10 cases bugs were found, and it is with these that the following arrangements were carried out so that the new houses would not become infested with vermin.

Much careful consideration was given to the question of a fumigant which would be certain to destroy all classes of vermin at every stage of development at one operation in the furniture, mattresses, clothing, and bedding.

Ultimately it was decided to use "ZYKLON B," a cyanide preparation, as the method most likely to achieve the desired result. The properties of this fumigant and the results, when applied to ships, mills, factories, and the like, are well known, but there was no previous experience to act as a guide in the present circumstances. Details of the scheme are, therefore, set out in full.

Fumigation of the hut with the furniture *in situ* was ruled out owing to the impossibility of rendering it gas-tight; any leakage of gas of such toxic properties would have been dangerous to the inhabitants of adjoining huts.

After due consideration of all the facts it was decided to carry out the fumigation of the furniture, bedding, etc., in an ordinary furniture van, which could be easily rendered gas-tight.

Arrangements were also made for the bathing of the population, which numbered 69, and for the fumigation of their wearing apparel at the same time.

On December 12th the first two families were dealt with, and on each succeeding day two other families, until the ten were disposed of.

At 7-30 a.m. on each day the furniture and effects of one family was placed in the van. This operation was supervised, so that rubbish or unwanted articles could be placed in the Corporation dust-cart and sent to the destructor.

After the hut was emptied the tenant was shown round, so as to be satisfied that nothing was left behind. The family were then conveyed to the bathing station, where they were bathed and their clothing fumigated. Meanwhile the furniture van was removed to a special enclosure, where the gassing could be safely carried out.

At 8-45 a.m. the rear door of the van was opened and a fire bucket of charcoal was inserted to raise the internal temperature to 80 or 90 degrees Fahrenheit in order to warm up the vermin and make them lively. This precaution was necessary on two counts: the one mentioned above, and to aid the rapid diffusion of the gas.

At 9-15 the fire was removed and the "Zyklon B" inserted; the doors were closed and sealed up with gummed paper.

The period of fumigation deemed to be sufficient was three hours, but, owing to the shortness of time, a heavy concentration of gas was used. Instead of 288 grams per 1,000 cubic feet, 400 grams were used for each van of 750 cubic feet.

Lethal Effect.

Controls (specially prepared tubes each containing live bugs) were inserted between layers of bedding in different parts of the van. The ends of the tubes were covered with muslin secured with rubber bands. The tubes were then rolled in kraft paper tightly twisted at each end and repeated five times. A further control consisted of a 6in. by 1in. boiling tube into which bugs were placed. The tube was plugged with a wad of cotton wool 1½in. deep, covered with a cardboard disc, and sealed with gummed paper. This was placed between bedding as before described.

At 1 p.m., on opening up the vans, the control tubes were removed. All the specimens were dead and there was no resuscitation. Ample evidence of dead bugs was found in the bedding and furniture.

At 1-15 p.m. the vans were driven round the park for a quarter of an hour, so that a current of air was driven through the van to remove surplus gas. This process proved efficient, thus enabling the van to be entered without using a gas mask.

1-30 to 2-0 p.m. all bedding, carpets, clothing, etc., were removed from the van and placed in a covered shed, where the articles were spread out on hooks and racks. Buckets of charcoal fire were then placed in the sheds in order to raise the temperature to 80 or 90 degrees Fahrenheit, to drive off absorbed gas.

It should be here noted that this bedding, etc., was not delivered to the new house until the following day. A sufficient number of beds, pillows, etc., were loaned to the tenants for one night. On the morning of the following day every article of bedding and clothing was hand-beaten before being returned to the owners.

2-0 p.m. a bucket of charcoal fire was placed in the open van to drive off any remaining gas from the furniture, but this was discontinued after the first two days, not being necessary.

3.0 to 3.30 p.m. the furniture was delivered to the new house. As a precautionary measure upholstered articles were placed in an empty room or house, and not used until the following day.

4.0 p.m. The family was returned from the bathing station to the new house.

Precautionary measures adopted inside the new house for the first night :—

- (a) Fires were lit in the bedrooms.
- (b) One window was securely fixed open so that it could not be closed.
- (c) A fanlight over the staircase was removed.
- (d) Tests for acid were carried out late in the afternoon of all bedding returned after fumigation.

The whole of these operations were carried out according to schedule without friction of any kind, and, though the fumigation may be regarded in the nature of an experiment, sufficient experience has been gained to demonstrate the practicability of using "Zyklon B." without endangering life.

The importance of the experiment—the first of its kind undertaken by any local authority—to protect new houses against vermin infestation from infested furniture, bedding, clothing, etc., was sufficient justification for the attendance from Frankfort of Dr. Heerdt (the head of the fumigant manufacturing concern), Mr. Wasmer (his chief assistant), and Mr. Leidke (the foreman disinfecter). The latter, assisted by Mr. Phillips, of the London branch of the Company, carried out the work.

All the above expressed their complete satisfaction with the arrangements made, and stated that they were capable of adoption in all countries.

Information gleaned during the progress of the work from the various experts in the use of "Zyklon B." :—

- (1) Previous disinfestations for bugs had always been undertaken in the infested house, or the furniture had been removed to a special brick building set apart for the purpose.
- (2) Owing to the penetrative qualities of the gas and the absorptive nature of building materials, a twelve-hour penetration period was requisite, and a corresponding twelve-hour period was required before the premises were free from gas.
- (3) German public health law demands that a house fumigated with "Zyklon B." shall not be occupied within 24 hours. Mr. Leidke stated that three days were usually taken because one could not always be sure that the gas had been liberated from the cavities between floors,

- (4) Gas masks are specially made to neutralise the particular gas used as a fumigant ; these cost about three shillings each and are discarded after they have been in continuous use for a two-hour period.
- (5) " Zyklon B." can be purchased from the London Fumigation Co. Ltd. in sealed tins of various sizes. Complete instructions as to use are issued with each tin.
- (6) Gas masks are only worn by the staff---
 - (a) When opening the tins.
 - (b) When distributing the powder.
 - (c) When final sealing-up is taking place.
 - (d) When opening up after fumigation.
- (7) There does not appear to be any reason why this method of fumigation should be excluded from the usual work of the department, providing a trained man is placed in charge of the work.

All the arrangements were carried out without the slightest necessity for coercion or the exercise of any legal power.

INDEX.

	PAGE		PAGE
Abergele Sanatorium.....	70, 98, 99	Deaths, Certified by Medical Practitioners.....	23
Abergele Sanatorium, Report of Medical Superintendent	143-169	„ from various causes for 6 years	5
Adulteration of Food and Drugs	253-258	„ from infectious diseases for 11 years	25
Air Pollution—See Smoke		„ males	1, 16
Anthrax	55	„ females	1, 17
Antitoxin	32	„ in infancy	18
Area of City and wards in acres.	1, 21	„ in childhood	18, 22
Artificial Sunlight	208	„ under 1 year of age per 1,000 births..	1, 7, 8, 19, 22
Babies' Hospital	228-230	„ uncertified.....	23
Babies' Ward	131, 230	„ and Births, natural rate of increase	21
Bacteriological Examinations..	44, 137	Death-rates	1, 5, 19-23
Baguley Sanatorium		„ gains and losses ...	6
98, 99, 104, 105, 107		„ male and female...	1
Baguley Sanatorium—Report of Medical Superintendent.....	170-179	„ in the homes of the people and in institutions.....	1, 5, 19
Bakehouses	258-259	„ in Wards	21, 22, 23
Births	1, 19, 21, 22	„ specified causes	5, 8, 19, 20
„ Act, Notification of	224	Delamere Sanatorium..	98, 99, 103, 104
„ Illegitimate.....	22	Density of population	1, 21
„ and Birth-rates in Wards	21	Diarrhœa	8, 50, 51, 226-227
Birth-rates	1, 19, 21	Diphtheria ..	8, 24, 30-36, 49, 123-125
Booth Hall Hospital..	107, 109, 112-117	„ attacks, in weeks ..	33
Canal Boats.....	282	„ „ in age groups	34
Cerebro-Spinal Fever.....	24, 40, 129	„ „ in Wards..	35
Chickenpox	24, 25	„ carriers.....	31
Childbirth, deaths at.....	20, 190, 191	„ contacts	30
Child Welfare Centres.....	207-218	„ Immunisation	32, 122, 125, 139, 213
Cleansing Department, Work of		„ “Schick” test.....	32, 139
301-303		„ Virulence tests	31
Closets, number of ..	272-273, 301-302	„ bacteriological examinations ...	44, 137
Consumption	69-105	Disinfected articles	252
Convalescent Homes	110	Disinfecting Station	252
Conveniences, Public		Disinfestation Cyanide	317
272, 273, 289-291		District Medical Service	111
Crossley Sanatorium ..	98, 99, 103-104	Drainage.....	271
Crumpsall Hospital..	107, 108, 112-117	Dysentery	24, 55
„ „ treatment of		Education—Public Health ...	248-251
„ „ Cancer....	106	Encephalitis Lethargica	24, 41-43
„ „ paying beds.	109	Enteric Fever	24, 36-39, 126
„ „ Institution	112-117	„ attacks and deaths	38
Crumpsall Hospital Pathological Laboratory.....	118	„ bacteriological examinations ...	44
Cyanide Disinfestation	317	„ attacks, in weeks	39
Deaths, various causes	12-15		
„ in public institutions..	1, 5		
„ and Death-rates in Wards	21		
„ certified by Inquest ...	23		
„ Legitimate and Illegitimate	22		
Y			

INDEX—*continued*

	PAGE		PAGE
Erysipelas	24, 127	Immunisation—Diphtheria	
Estimated population	1, 19, 21	32, 122, 125, 139, 213	
Excess of births over deaths...	1	„ Community	32
Exhumations	283	Infirm and Diseased Persons,	
		removal of	283
Fabrics (Misdescription) Act...	284	Infant Life Protection	221-222
Factory and Workshop Act, 1901 :—		Infant Life :—	
Summary of work by In-		Work of the Health Visitors, 224-238	
spectors	275-277	Infantile mortality.....	1, 7, 8, 19, 22
Farms	60, 61, 63, 68	Infantile Paralysis	233
Fever, Scarlet.....	24-29, 49, 119-122	Infectious diseases	24
„ Enteric	24, 36-39, 126	„ „ consultations	25
„ Puerperal and Pyrexia		Influenza	53, 54, 232
20, 24, 129, 139-142, 193-196		Inquests	19, 23
„ Cerebro-Spinal	24, 40, 129	Inspectors, special summary of	
Fish, etc., unwholesome	56-59	work	285
Food Poisoning.....	55	Institution death-rates	1, 5, 19
Food, preservatives in	254	Institutions—Number of beds..	106
Food and Drugs and Margarine		„ General Survey..	105-117
Acts.....	255, 256	Investigators, work of	220
Food Supervision	253-259		
		Jewish Health Visitors	234
German Measles and Measles,			
24, 45-47, 49, 128, 231-233		Langho Colony	107, 109, 112-117
Health Visitors	224-238		
Infantile mortality....	1, 7, 8, 19, 22	Malaria	24, 55
Cleansing of verminous		Markets Department, work of..	56-59
children	233-234	Market Places open	278
Jewish Health Visitors	234	Marriage rate	1, 19
Notification of Births Act...	224	Massage at Centres	208
Yearly Summary	234a	Maternity beds, subsidisation of	218
Home Helps	219-220	Maternity and Child Welfare..	180-238
Heaton Park Dwellings	260	Maternity Homes and Hospitals	
Homes of the people, death-rates		222-223	
in	5	Maternal mortality	20, 190-191
Hospitals, General Survey ...	105-117	Measles and German Measles,	
„ Total Beds	106	24, 45-47, 49, 128, 231-233	
Hospital Visiting	106	Meat Regulations	55-56
Hospitals, death-rate	1, 5, 19	Meat, etc., unwholesome	56-59
Hospital Maintenance—Recovery		Meteorological data	4
of Costs	109	Middens	272, 301-302
Hostels, municipal	268	Midwives Acts, 1902-1926,	
Houses let in lodgings	268	Report of Executive Officer..	180-220
Housing	1, 259-268	Milk Control and Veterinary...	60-68
Housing Act, 1930.....	259	Milk, Hospitals supply	63
Hulme Clearance Area	261	Milk Pasteurisation	308
		Milk and Tuberculosis	44, 60-68
Ice Cream	61, 62, 66	Milk (Mothers and Children)	
Illegitimacy and mortality.....	22	Order, 1918, etc.	220a
		Milkshops	61
		Milk Licences issued in 1932...	66

INDEX—continued

	PAGE		PAGE
Monsall Fever Hospital	107	Puerperal Fever..20, 24, 129, 139-142	193-196
Report of Medical Super- intendent	119-142	„ Pyrexia ...24, 189, 193-196	
Aural Report	132-137	Rag Flock Act (1911).....	284
Laboratory Report	137	Rats and Mice (Destruction) Act	293-300
Return Cases.....	120	Recorded death-rates	1, 19, 21
Report of Puerperal Sepsis, 129, 139-142		Refuse, disposal of	301-303
Report of "Schick" and "Dick" test.....	122, 125, 139	Relief, Poor Law, etc., 10, 184-187, 220-220a	
Mortality, infantile	1, 7, 8, 19, 22	Rent Restriction Acts.....	269
„ comparison in Wards	21-23	Rickets	229-230
Neo-Natal Deaths	196-198	Rose Hill Convalescent Home, 107, 112-116	
Notification of infectious diseases	24	Sanitary Department, work of 253, <i>et seq.</i>	
Notification of Births Act.....	224	Scarlet Fever.....	24-29, 49, 119-122
Nursing Homes Registration Act, 1927	222-223	„ immunisation 122, 125, 139	
Nurseries, Day	213	„ in quarters	26
Offensive trades	278-280	„ attacks in Wards	27
Ophthalmia Neonatorum	24, 200-206	„ attacks and deaths	28
Outworkers	276	„ attacks, in weeks	29
Pail-closets	272, 301-302	„ "Return" cases 29, 120-121	
Paratyphoid Fever.....	24, 36-39, 126	" Schick " test	32, 125
Pasteurisation of Milk	308	Shops Acts and Orders	276
Pemphigus Neonatorum ..	24, 198-199	Smallpox	24, 26
Persons to an acre	1, 21	Smoke Abatement (Regional Committee Report)	306
Persons Infirm, etc., removal of	283	Smoke	273
Persons per house	1	Special Inspectors, work of....	292
Phthisis	69-105	Special reports	305, <i>et seq.</i>
Pneumonia	24, 51-54, 231-233	Stables	281
Poisons and Pharmacy Act ...	284	Staff, Public Health Department	2, 3
Polio-encephalitis	24	Statistical summary.....	1, 5-8
Poliomyelitis, Acute Anterior... 24, 41		Stillbirths	1, 196-198, 224
Poor Law Relief	10	Sunlight, artificial	208
Population, census	1	Swinton Home	112-116
„ estimates of	1, 19, 21	Tables, Annual	11-23
„ in Wards	21	Tips	280-281
„ natural increase of..	1, 21	Tuberculosis of the Lungs	69-105
„ density of	1, 21	Bacteriological examinations .	44
Pre-Maternity Centres	207-218	Notifications	87-95
Preservatives in Food	253	Dispensary	96
Public Assistance	9, 10		
Public institutions, deaths in..	1, 5, 19		
Public Health Officers	2, 3		
Public Vaccinators and Vaccina- tion Officers.....	110		

INDEX—*continued*.

	PAGE		PAGE
Tuberculosis of the Lungs		Van Dwellers	269
— <i>continued</i>		Venereal Diseases	239-247
Cases treated in—		Vermious cleansing	233-234
(a) Abergale Sanatorium—		Veterinary and milk control...	60-68
70, 98, 99, 143-169		Virulence test	31
(b) Baguley Sanatorium—			
98, 99, 104-105, 107, 170-179		Water closets	272
(c) Delamere Sanatorium—		Whooping Cough	47-49, 231
98-99, 103-104		Withington Hospital,	
(d) Other Institutions.....	88, 89	106, 108, 109, 112-117	
Tuberculosis and milk	44, 60-68	,, ,, treatment	
Typhoid Fever—see Enteric		of cancer	106
Fever	24, 36-39, 126	,, ,, paying beds	109
Typhus Fever	24	,, Institution.....	112-116
Uncertified deaths	23	Work of Cleansing Department	
Undulant Fever	40	301-303	
Unhealthy dwellings	262	Work of Special Inspectors ...	292
Unwholesome foods	56-59	Workshops	275-277
Vaccination	110		